An Address
ON THE
TREATMENT OF TYPHOID FEVER.

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WHEN the Council did me the honour of asking me to address the Society this evening, I acceded to the request, with the intention of bringing before its members some general subject; but subsequently I gathered that this Society has for its aim the dissemination among the members of practical knowledge rather than of medico-political opinions, and so I thought it wiser to follow the example of my predecessors, and fix on a purely practical subject.

Though I have nothing new on the matter to bring before you this evening, and have therefore in some measure to pray your pardon for occupying so much of your valuable time in the enumeration of common truth, I still think myself justified in selecting the Treatment of Typhoid Fever for my paper to-night—(1) because of the intrinsic importance of the subject; (2) because some of the questions concerning the treatment of typhoid fever are considered by many to be still undecided; (3) because not only have I had, for a longer period, probably, than any of my hearers, much experience in the treatment of the disease, but I have also had during later years frequent opportunities of myself seeing the results of various modes of treatment as practised by others; (4) because, although I have written much and often on the etiology and pathology of the disease, I have never publicly expressed any opinion or written a line on its treatment.

In so complex a disease as typhoid fever—the mortality and symptoms of which vary not only with the age, habits, and family constitution of the patients, but also with the dose and mode of access to the system of the poison, the conditions which precede and those which accompany the disease during its incubative period and its earliest development, the epidemic constitution, the date at which the disease is first treated, and the early management of the patient,—it is scarcely possible to find two cases in all respects identical, and quite impossible to collect records of a sufficient number of cases practically identical to determine by numerical analysis the best mode of treatment. And even of the specially prominent symptoms—e.g., temperature, rapidity of pulse, diarrhœa,—each one may owe its origin to such different pathological conditions, and it is so often impossible to determine in any given case to which of these several conditions it is due, that in the *present state* of pathological knowledge it seems to me that it is impracticable to determine otherwise than by the opinions formed by individuals from personal experience, what are the best means to be employed in the treatment, not only of typhoid fever itself, but also of each symptom, and how and under what circumstances each remedy should be employed. I do not in the least degree under-estimate the immense importance of numerical analysis for arriving at truth on medical subjects; and if it were possible to find the value of the several remedies proposed for the treatment of typhoid fever, or of its symptoms, by numerical analysis, the results of such an analysis would be real steps in our knowledge, for facts would replace opinions, and doubts in regard to the influence of remedies be impossible. Each special act of treatment would then be based on firm grounds, instead of being, as it now is, an experiment performed by the medical attendant. The sum of his own experiments constitutes each man's experience, to which, in proof of the correctness of his practice, he appeals as to a judge whose decision is final and infallible. And yet how different are the conclusions, all based on experience, drawn by different observers in regard to the effects on any given disease or symptom of any given remedy. The physician orders a drug or a stimulant, or employs a bath; and then, according to the credulous or sceptical tendency of his mind, his experience in the special disease he is treating, his knowledge of its natural course and history, his powers of observation, and the general soundness of his judgment, the *post hoc* is, in his opinion, a mere *post hoc*, or a veritable *propter hoc*; and the remedies he employed have been, in his opinion, of little consequence, or all-important; and so he builds up his experience on treatment. And the difficulty of building up treatment by the accumulation of the experience of many men, expressed in their opinions merely, is enhanced by the fact that, even when the conclusion is correct, the good effect following the administration of the drug is a veritable *propter hoc*, it is for many men an impossibility to follow or define for themselves, much more describe to others, the several steps in the mental analysis of the facts before them they have performed in arriving at their correct conclusion. Some men appear to be capable of performing this delicate mental analysis correctly without being able to follow the steps of the analysis in their own minds; they are no more capable of following their own mental efforts, or of telling another how they arrived at their correct conclusion, than are those children who solve complex arithmetical problems in a few seconds without themselves knowing by what steps they pass from the premises to the conclusion.

Believing, however, notwithstanding all these sources of serious error, that in the present state of pathological knowledge it is impossible to fix the treatment of typhoid fever on a more sure basis than individual opinions founded on experience, I propose to describe what my experience has taught me to be the most successful methods of treatment of the disease, and also of some of the symptoms which by the severity they may attain cause grave discomfort to the patient, or place his life in danger. I shall limit myself to those symptoms which may be considered to be the natural manifestations of the disease, for time will not permit me to pass even briefly in review all the symptoms common in the disease or the complications, although the patient often succumbs to these symptoms and to these complications.

To give a clear view of the treatment of these symptoms, I shall be obliged to refer to the pathological conditions in which they severally originate.

I have never known a case of typhoid fever cut short by any remedial agent—that is cured. The poison which produces any one of the acute specific diseases (to which order typhoid fever as much as small-pox belongs) having entered the system, all the stages of the disease must, so far as we know, be passed through before the recipient of the poison can be well. If the patient can be kept alive for a definite time the specific disease ends, and then, if no local lesion remains to constitute a substantive disease, the patient is well. The treatment of typhoid fever is essentially rational. To treat a case with the best possible prospect of success the physician ought to be acquainted with the epidemic constitution of the period, the etiology of the disease, its mode of attack, its natural course, the order of appearance, and the natural duration of each of its symptoms, the way in which each symptom influences the termination, the several pathological lesions which produce or may produce each special symptom, and the complications to be watched for at each stage of the disease.

Certain facts have to be kept in mind when treating a case of typhoid fever, and when estimating the effect of remedies: First, that the disease, in the majority of cases at least, is produced by the action of a small portion of the excreta from the bowel of a person suffering from typhoid fever; that air from a drain, or air blowing over dried feculent matter, may convey the poison to the patient, or his own fingers may carry it to his mouth, or that the vehicle for the poison may be a fluid—for example, water or milk; and that the poisonous properties of the excreta may be destroyed by boiling the fluid in which they are contained, though not by filtering the fluid. Secondly, that the natural duration of a well-developed case of typhoid fever is from twenty-eight to thirty days. Hence subsidence of the fever before that date should be regarded with suspicion, and the patient not treated as if the specific disease had ended, while the continuance of febrile disturbance after that date should lead to repeated and most careful examination of the patient, in order to ascertain if any local lesion is keeping up the febrile excitement. But not only is the duration of the specific disease limited, but the prominent symptoms have their regular order of sequence, and several their own natural limits of duration—that is, a time to begin and a time to end; and the natural termination of a symptom has often been attributed to the remedial agent last employed.

On what part of the system the poison exerts its earliest influence, whether on the agminated glands or on the nervous system through the blood, must in the present state of our knowledge be doubtful; but that by the time the first symptoms of the disease occur the nervous system and the agminated glands of the small intestine are both seriously affected there can be no question. That the nervous system suffers at the outset is shown by the headache and the general nutritive disturbance—i. e., by elevation of temperature and loss of weight, due to waste of the tissues generally, and by the arrested or disturbed secretions generally; and that the agminated glands also suffer from the outset is shown by the pain in the abdomen and deranged action and secretion of the bowels, and also by rare post-mortem examination made within a few days of the beginning of illness.

In the earliest stage of typhoid fever the patient is prone to commit certain mistakes in treating himself, either of which may add greatly to the severity of the coming illness. (1) He may think that he has a common cold in his limbs, as it is called, and try to throw it off by strong exercise. A certain sense of weakness accompanies this early stage of the fever, but it is rarely so great as to prevent the patient, if stimulated by strong will, walking long and briskly. (2) He may consider that he is suffering from biliary derangement, and attribute to this the headache, disturbed nights, sense of malaise, want of appetite, and disordered bowels, and take a dose of drastic aperient. (3) He may think the weakness he feels is to be removed by food and wine. A dose of medicine, he says, cannot hurt; bed, he thinks, weakens; and food and wine, he knows, restore strength; therefore he prescribes a dose for himself which irreparably injures his bowel; he takes exercise which increases the waste material in his system, and he loads his stomach with food it cannot digest and stimulants which heighten the fever and disturb the action of the eliminating organs, and then pays the penalty, perhaps with his life, for the errors his ignorance has led him to commit.

The thermometer saves, or ought to save, the physician from the patient's mistakes. The temperature having rendered it even *possible* that the ill-defined and may be trifling symptoms are due to the poison of typhoid fever, the patient should be absolutely confined to bed. Exercise or fatigue immediately before or after the absorption of the poison, and especially when the action of the poison is manifesting itself, increases the gravity of the disease, partly by exhausting the nervous power, but chiefly, I think, by causing destruction of tissue, and so the presence of waste material in the system on which the poison can act; and at the same time, by disturbing the action of the eliminating organs, it leads to the retention in the system of the products of the destroyed tissue.

Some of the worst cases of typhoid fever I have ever seen have appeared to me to owe their gravity to the patient having travelled, after the commencement of the sense of illness, in order to reach home. I very rarely advise a patient's removal to his home, if that be distant, so satisfied am I that the fatigue of travel, whether by rail or carriage, tends to make what would otherwise have proved a mild case severe, and to cause a bad case, which might after perhaps a struggle have ended favourably, to terminate in death. Not only is other tissue-destruction than that due to the fever process in a great degree prevented by rest in bed, but the nervous system is there less liable to disturbance, any tendency to moisture of skin is favoured, the elimination of the products of waste tissue is unchecked, and chances of error in diet diminished. The air of the room should be as pure as possible; the room in which the patient is placed be large enough to permit it being freely ventilated without draughts; if possible, the patient should occupy a different room at night from that used in the day.

From the first the patient should be restricted to liquid diet, with farinaceous food, and bread in some form if the appetite requires it. It is better to vary the broths, and to add to them some strong essence of vegetables. Sometimes a little strained fruit juice is taken with advantage, but skins and seeds of fruits and particles of the pulp are frequent sources of irritation of the bowel. Grapes are always dangerous from the difficulty of preventing the seeds slipping down the throat. The value of milk as an article of diet in fever is generally admitted, but it requires to be given with caution. The indiscriminate employment of milk in almost unlimited quantities as diet in fever has led to serious troubles. Milk contains a large amount of solid animal food. The casein of the milk has to pass into a solid form before digestion can take place. Curds form in the stomach, and, the digestive powers being weakened in fever, these curds may remain unchanged in the stomach, and produce considerable disturbance of system.

I have seen the patient restless, sleepless or drowsy, his temperature raised several degrees above what it had previously been, vomit, eject a quantity of curd, and at once the restlessness cease, the temperature fall, the skin become moist, and the patient drop into a quiet sleep. All the threatening symptoms vanish with the ejection of the offending material. Or the undigested curds may accumulate in the bowel, inducing flatulent distension and pain in the abdomen, restlessness, and increased febrile disturbance. Under these circumstances, I have seen an enema of thin gruel bring away a large vesselful of offensive, sour, undigested curds. Or, again, the undigested curds may themselves (and this has not been an uncommon consequence of milk diet in my experience) irritate the bowels, and produce, keep up, or greatly increase diarrhœa. A distinguished chemist once remarked to me, "Do not forget that a pint of milk contains as much solid animal matter as a full-sized mutton-chop"; and solid the casein of the milk must become before it can be digested; and yet I have known a patient drink two quarts and even more of milk in twenty-four hours—i. e., solid animal food equal to four mutton-chops. Can anything approaching to such an amount of solid animal food be digested, and, if it could, is such an amount of animal food good for a patient suffering from typhoid fever? He is weak because of the presence of the fever, and not from lack of food.

Patients suffering from typhoid fever should be allowed an unlimited supply of pure water. When pure water is freely absorbed, it passes away by the kidneys, skin, lungs, &c., and is of much service as a depurating agent. If it be *possible*, even, that the poison of the fever was conveyed into the patient by the drinking-water or the milk of the district in which he is ill, then these fluids should be boiled till a different supply is obtained. All sources of foul air from drains or cesspools should be sought for, and the air the patient breathes be freed from all possibility of impurity; disinfectants should be placed in the close-stool, and the dejecta buried if possible. If the bowels are confined in the early stage of the disease a simple enema should be given. Hard stool retained in the bowel will produce irritation, and it may be catarrhal inflammation of the intestinal mucous membrane, and so induce troublesome diarrhœa. Small doses of mineral acid, well diluted, are grateful to the patient, and may perhaps be useful.

The fever is thus met by rest, quiet, fresh air, mixed liquid food and bland diluents, and the exclusion of fresh doses of poison; the intestinal lesion by the careful exclusion from the diet of all hard and irritating substances, and the removal from the bowel of any local irritant.

Frontal headache and sleeplessness are two symptoms of the early stages of typhoid fever which may cause the patient much distress. The headache is in some cases alleviated by cold and in others by warm applications; but as the headache ceases spontaneously in about ten days from the outset of the fever, no active treatment is required for its cure. Local applications, the exclusion of light from the room, and absolute quiet, have been all the means I have seen necessary for its relief. Sleeplessness is a more important symptom, for although it also usually disappears or diminishes spontaneously during the second week of disease, still this is not invariably the case; and the nervous system may be greatly worn by the want of sleep, lasting as it does occasionally, unless treated, night and day. The drugs I employ when, from the continued sleeplessness, it seems absolutely necessary to relieve it, are henbane, bromide of potassium, and chloral. From a combination of the latter I have seen very good results, and, so far as my experience has gone, no really ill effects when its use has been limited to the earlier stages of the disease—i.e., to the period anterior to signs of nervous prostration. If the patient's temperature be high, a tepid bath or sponging the surface will often at once induce sleep, and no drug be required. In the earlier and also in the later stages of typhoid fever the sleeplessness has been treated by opiates. Experience has convinced me that although, in some cases, opium in sufficient dose to secure sleep has afforded relief, it is on the whole a most dangerous remedy. In the early stage of fever it disturbs digestion and checks secretion. In the later stages of the disease I have seen several cases fatal from its influence on brain, heart, and

secreting organs. To my mind, the hoped for and occasionally attained good is altogether outweighed by the disproportionately possible evil and occasionally fatal effect resulting from the administration of direct sedatives, opium and chloral, in the later stages of fever.

Changes in the agminated glands are present from the earliest period of the disease, and to these progressing changes in Peyer's patches, in the mesenteric glands corresponding to the patches, and to the disturbances in the intestinal secretion and action consequent on these changes, the abdominal pains and laxness of bowels proper to the fever are due. So long as disease is limited to the specific changes in question there is probably little diarrhœa, but as local disease progresses catarrhal inflammation of the mucous membrane supervenes, and when this is extensive the stools become frequent, liquid, and more or less copious.

The changes preceding the ulceration, and the ulceration itself, of Peyer's patches are specific in nature, as much so as is the eruption on the skin; and there are no drugs or other means of arresting or limiting these specific processes. But over the diarrhœa which usually accompanies these processes in their progress we can, in many cases, exercise a decided influence.

The chief causes of diarrhœa in excess of that due to the intestinal specific changes in typhoid fever are:—1. Error in diet—e.g., the use of solid food,—the presence of particles of undigested food in the bowel, the abuse of milk, pure animal broths. My own experience has not satisfied me that one animal broth is more prone to produce diarrhœa than another. Excess of fluid, when there is inability to absorb the quantity drunk, passes through the bowel, and so simulates excessive secretion from the intestinal mucous membrane. 2. Catarrhal inflammation of the mucous membrane and irritability of the bowel. These conditions are frequently the consequence of, or are greatly increased by, the unhealthy intestinal secretions and contents, evidenced by their ammoniacal and especially offensive odour and strong alkaline reaction, and by the passage through the bowel of undigested food, whether liquid or solid. So long as the stools do not exceed three to five of moderate quantity in twenty-four hours, the looseness of bowels is rather advantageous than injurious; but when, from their number or from their quantity, there is risk of the strength of the patient being reduced to a dangerous degree, then it becomes necessary to restrain the diarrhœa. The treatment varies with the pathological condition which induces the diarrhœa. It is often sufficient to examine the stools to detect the cause and remove it—e.g., curds of milk. Inquiry may prove the great excess of the fluid taken into the stomach over that passed by kidneys and skin. When the stools are strongly alkaline diluted sulphuric acid sometimes affords marked relief. When the stools are merely frequent four ounces of starch water thrown into the rectum night and morning will often check the frequent action. Should this not prove efficacious from three to ten drops of laudanum in one ounce and a half of starch water may be thrown into the bowel night and morning *after* the passage of the stool. When very offensive, correctives of fetor should be given; a teaspoonful of charcoal may be given two or three times a day. Under its influence I have seen the stools lose their fetor and ammoniacal odour, become less liquid, and in many cases the irritation from the catarrhal inflammation of the mucous membrane diminished. The greatest possible care should be taken that the charcoal is an impalpable powder; animal charcoal has, in this respect, some advantages over vegetable. Other correctives of fetor, or antiseptics, will have as good effect as charcoal, but this has given me such satisfactory results that I have not resorted to other remedies of its class.

Carbonate of bismuth, in twenty-grain doses every four or six hours, is one of the best remedies I know for the catarrhal inflammation of the bowel itself. If the fluid poured out be very excessive, then a vegetable astringent, as catechu and kino, may be given with the bismuth, and, should these means fail, three to five drops of laudanum must be added to each dose of the mixture. The use of opium, even in this dose, by the mouth, should be avoided if possible, as, by interfering with the action of excreting organs, and by its other effects on the nervous system, it may do more harm than the symptom for which it is prescribed. The administration of opium should if possible be limited to the bowel.

In place of being relaxed, the bowels are occasionally confined. Inaction of the bowels in typhoid fever may be due to torpidity of the large bowel, with free absorption of the fluid contents or diminished secretion of fluid by the mucous membrane of the bowel. Under these conditions the stools become even hard and dry, and, if long retained in the bowel, may produce considerable irritation, and even catarrhal inflammation, of the mucous membrane of the bowel, with diarrhœa.

At the same time that solid stool accumulates in the rectum and colon, which may require removal, there may be extensive or deep ulceration in the ileum. A small-sized enema of thin gruel, repeated every other day if necessary, is safer than a large enema at longer intervals. Laxatives, however mild, by the mouth, are liable to irritate the ulcerated surface of the bowel, and, if sloughs are separating, may forcibly hasten the detachment, and so produce hæmorrhage and turn the scale between recovery and death.

The most important, and a not unfrequent, cause of inaction of the bowel in typhoid fever is *deep* ulceration of one or more Peyer's patches. Large superficial ulcers favour the occurrence of diarrhœa, and are often accompanied by catarrhal inflammation of the mucous membrane. A single *deep* ulcer will paralyse the action of the bowel, and so cause constipation, and this has to be kept in mind as a fact of the highest practical importance when it is proposed to relieve the bowels by an aperient. A deep ulcer is usually produced by the separation of a deep slough, and is often unattended by any catarrhal inflammation of the small intestine, or by any affection of the large intestine.

In all cases of typhoid fever there is some distension by flatus of the abdomen—the belly is more or less blown. The distension is sometimes so great as to interfere with the free play of the diaphragm, and so, by preventing the full expansion of the lungs, favour congestion of those organs and impede the circulation. Fluid will run through the bowels with little effort; air requires expulsion. Excess of flatus in the bowels may have its origin in deficient power of expulsion or excessive generation of gas. Sufficient paralysis of the bowel to cause accumulation of flatus may be the result of loss of nerve energy, or of local injury of the bowel. A single *deep* slough-formed ulcer will paralyse the action of the bowel, and lead to such an accumulation of flatus as produces enormous distension of the abdomen; the weaker the abdominal muscles the greater, *ceteris paribus*, the accumulation of flatus. Want of power to expel the flatus, and excess in the quantity formed, reach their maximum as a rule about the latter half of the third and during the fourth week of the fever, for then the sloughing and ulcerative processes of the walls of the intestine are at their height, the nerve-power is at its lowest, and the contractile energy of the abdominal and intestinal muscles is consequently at its minimum; while, from the state of the stomach and the secreting glands generally, the antiseptic digestive processes are in a great degree arrested, and the food that finds its way into the intestines mingling with the fetid secretions from the diseased intestines, and with the sloughing particles separating from the solitary and agminated glands and from the floors of the ulcers, readily undergo gas-generating decomposition. Of all the remedies proposed for the relief of flatulent distension of the abdomen, turpentine applied externally is the most extensively employed in practice. Now I must say, with reference to the external application of turpentine, that I have never seen a diminution of the distension which seemed to me to be *propter hoc*.

The brief outline I have sketched of the pathological conditions causing the distension gives the key to what has seemed to me to be its most successful treatment. If the stools be fetid and the distension is in part due at least to the excess in the gas formed, then to destroy this fetor and to arrest putrefaction and gas-generating decay of the contents of the intestine is for me the first object. Charcoal has proved a most efficient agent for effecting this purpose. It is of importance to select as food-substance which leaves no solid residue to undergo decomposition in the intestine. The administration of pepsin and acid at the same time as the food, and also the partial digestion of the food before it is taken, is often advantageous. The large intestine is occasionally so greatly distended as to lose from stretching its contractile power; the introduction of a long tube into the bowel, and the mechanical removal of some of the gas will occasionally be sufficient to enable the bowel to regain some of its contractile power. Alcohol in fit doses improves the nerve-energy, and so increases temporarily the muscular power of the intestinal and abdominal walls.

In hæmorrhage from the bowel in typhoid fever the blood

comes from the floors of the ulcers; the most copious hæmorrhages occur at the time of the separation of the sloughs; by the separating of the slough a vessel of some size may be opened. Under such circumstances the hæmorrhage is very copious, and the patient may even die on the chamber utensil. Much more frequently the blood, although considerable in quantity, escapes from minute vessels on the floor of the ulcers. I have never known it escape from the mucous membrane, though I have from the hæmorrhoidal veins. Although in the majority of cases the bleeding is arrested by nature, the blood lost relieving the vascular fulness of the part, still reliance should not be placed on this natural cure.

When blood in ever so small a quantity is observed in the stools, the patient is to be kept in the recumbent position. He should not be allowed to make any effort, and on no consideration to sit on close-pan or raise himself or be raised by others to pass urine &c. If the patient is unable to pass urine when in the recumbent position, the urine should be drawn off by catheter. All movement of the bowels should be restrained as far as possible and for as long as possible. An ounce of starch-water with ten or fifteen drops of laudanum may be given at once as enema, and then a dose of acetate of lead every two or three hours by the mouth, with three to five drops of laudanum, or fifteen grains of gallic acid in a wineglass of iced water every two or three hours with the laudanum. I think I have seen benefit from small doses of turpentine. It is a point of the greatest moment to keep the bowels empty, and therefore nourishment should be given in the most concentrated and absorbable form—e.g., essence of meat in tablespoonful doses frequently repeated. All nourishment which leaves solid residue—e.g., milk—should be avoided. Lumps of ice should be sucked, and all essence of meat &c. be iced. When the loss of blood is sudden and copious, or is frequently repeated, the subcutaneous injection of ergotine may be employed, and an ice-bag applied over the region of the ileum. The faintness due to considerable sudden bleeding from the bowel should not be removed by stimulants unless it immediately threatens life.

Perforation of the coats of the intestine by the extension of the ulcer in depth, and finally by sloughing of the peritoneum is, so far as my certain experience goes, always fatal. I have recorded one case in which this lesion was supposed to have occurred, and to have been repaired, but the patient dying some weeks after of erysipelas of the head and face, I found the perforation was not of the intestine, but of the peritoneum over a softened mesenteric gland. If adhesion occur over the perforated spot of intestine, my experience accords with that of Rokitansky—namely, that such adhesions are never permanent—i.e., permanent enough to permit the recovery of the patient. To give the patient a chance of recovery, absolute rest in the recumbent position must be maintained, and opium be given in quantity sufficient to stop all action of the bowel, and to subdue pain if pain be present. For pain, although in some cases most severe, is altogether absent in others, and this although the patient is perfectly sensible—not only conscious enough to feel pain, but able to tell those about him all he does feel. As any adhesions that form are so easily broken down, inaction of the bowels must be maintained for as long as possible.

Tenderness of the abdomen is not limited to inflammation of the peritoneum from perforation of the intestine; there is often inflammatory vascularity of the peritoneum corresponding to the floors of the ulcers in the intestine, and even lymph may be found thickening the membrane or fixing it to adjacent parts. When death from other conditions has occurred, I have not infrequently found this local preservative lesion to have been attended by very considerable tenderness of the abdomen. A like degree of tenderness arises from local peritonitis over the enlarged mesenteric glands, and also from the mesenteric glands themselves being inflamed from the absorption of irritating matter from the intestinal coats or contents. Warmth and moisture afford relief in the majority of cases, but if the temperature be high, and the tenderness superficial, an ice-bag to the part may be more beneficial, and more grateful to the patient. But the chief indication is to keep the tender part at rest, and to correct the fetor of the stools.

Tenderness in the left hypochondriac region, due to the state of the spleen, is not uncommon in typhoid fever. Enlargement of the spleen is one of the symptoms of most, perhaps of all the acute specific diseases; tenderness of the organ is only occasionally present. It is during the third week of typhoid fever that tenderness of the spleen usually reaches its maximum. When the tenderness is considerable it is a symptom of grave import; the tenderness is not due to local peritonitis, but to the condition of the proper substance of the spleen. For the relief of the state of the spleen indicated by tenderness, although a symptom of great significance in prognosis, I know no remedy of much importance; the application of warmth and moisture over the organ has sometimes seemed to be of service.

From the commencement of typhoid fever the temperature of the patient is elevated. This elevation of temperature is the direct result of excess in destruction of all the tissues of the body. The patient loses weight, and continues to lose weight so long as he is the subject of the fever, so that Zimmerman, fixed the duration of typhoid fever by ascertaining how long after the onset of the disease the patient ceased to lose weight. In local inflammation the temperature of the inflamed part is greatly in excess of the temperature of the body generally. In uncomplicated typhoid fever the elevation of temperature is practically uniform in all parts of the body. Local inflammation, blood-infection, and nerve-disturbance, are common causes of great increase of the temperature above that *proper* to any given case of typhoid fever—i.e., due to the action of the fever poison on the system generally. Thus inflammation of the mesenteric glands is frequently excited by fetid or acrid matters conveyed to them by the lymphatics from the raw and inflamed intestine, and blood-infection may owe its origin to the same cause. Congestive nephritis and pneumonia are common lesions in typhoid fever, and are common causes of increase of temperature. The power of the nervous system to raise the temperature, or to produce sudden changes which raise the temperature, in typhoid fever, is well illustrated by the sudden rise which frequently follows mental emotion. I have known the temperature start from this cause from 102° to 106°. In the progress of typhoid fever local inflammations cause more or less permanent elevation of temperature; blood-infection rapid, and sometimes temporary, always varying, elevations of temperature; nerve-disturbances rapid and often transient elevations of temperature.

The treatment of typhoid fever by cold baths, when the temperature reaches 104°, or even less, is very generally adopted in Germany; but neither my own limited experience nor the evidence adduced by others in its favour has carried conviction to my mind of its advantage. At the same time I entertain no doubt that the direct cooling of the body is in some cases essential to the preservation of the life of the patient—gives him, so to say, his only chance of recovery; while in others it alleviates the severity of a symptom which increases the danger of the patient.

A certain degree of elevation of the body is incompatible with the favourable progress of the case. Thus a temperature of 106°, rising to 107°, and still advancing, will, unless lowered by treatment, speedily end the life of the patient; for these fortunately very rare cases the direct and rapid depression of the patient's temperature by the cold bath is essential—is the only source of hope. Again, a temperature of 105°, if continuous for forty-eight hours, or broken only by a slight fall of short duration, may itself, by the degenerative changes it favours or produces in the heart and other organs, cause the fatal termination; for these cases a tepid bath gradually cooled down is sufficient to bring down the temperature; the bath has to be repeated as the temperature rises. Persons at an age when degenerative changes of tissue naturally occur suffer more from continued high temperature than do younger persons. If the disease be advanced, the skin dry, the patient prostrate, and the internal organs congested, especially the kidneys, a tepid or warm pack is often followed by marked improvement in temperature and in the other symptoms. When the temperature is for some time 103½° to 104½°, and even higher, cold effectually applied to the head (e.g., by the india-rubber tubing cap) will often suffice for its reduction—reduction, that is to say, not only of the temperature of the head, but of the body generally; when the temperature falls the cap should be removed, but be reapplied as often as it rises again. Tepid sponging will reduce the temperature a little, and soothe and quiet the patient if he be restless and sleepless.

Thus limiting the employment of direct means of lowering temperature, I have seen none of the ill effects which are said occasionally to follow its vigorous use—viz., collapse and failure of the heart's power; while I have seen what

has appeared to me to be indisputable good follow its employment.

Other means are used to reduce temperature. When the high temperature is conjoined with rapid feeble heart's beat, when the patient is advanced in years, or when the extremities feel cold, though the temperature of the body generally is high, a fall of temperature frequently follows the administration of alcohol. Quinine, in occasional large doses or in smaller doses repeated at intervals, has been followed by reduction of the temperature in typhoid fever. Salicylate of soda is also said to have a like effect. When judging of the effects of these and other drugs for reducing temperature, one must not lose sight of the fact that sudden fall of temperature when no drug is given is of not unfrequent occurrence, and also that the temperature varies daily. This natural fall of temperature I have seen attributed to the drug. I must say that I have been disappointed in the effects of the two drugs I have named as reducers of temperature, while I have seen both occasionally do much harm by disturbing the stomach and interfering with digestion. In a disease which runs a limited course, like typhoid fever, the greatest possible care should be taken to preserve the powers of the stomach, as the life of the patient may depend on his power to digest nourishment towards the end of the disease.

Typhoid fever cannot be cured by perspiration, but the patient suffers much less discomfort and is less restless when the skin is gently moist. The most certain means for producing gentle perspiration I know is the application of a large warm and moist flannel covered with oil silk over abdomen and chest, and the administration of warm bland fluids. In the later stages of the disease, profuse and most exhausting perspiration sometimes occurs. The perspiration is kept up and greatly increased by the heat of the patient's body and the moisture of the perspiration itself. To prevent chill, the nurse carefully covers the patient; thus, with a relaxed skin disposed to sweat, he is kept, so to say, in a prolonged vapour bath. I have seen lives lost from the asthenia thus produced. To restrain this profuse perspiration, the patient's skin should be dried with a warm napkin every few minutes if necessary, and dry clothes placed between the wet linen and the skin. Alcohol should be given at the same time to stimulate the nervous system and increase the force of the heart's action. Sponging with tepid vinegar and water is sometimes of much service.

The state of the heart, as indicated by the frequency of its beats and the strength of its impulse, has always been considered of the greatest significance in determining the treatment to be pursued at any moment in a case of typhoid fever. As a rule, the weaker, the more frequent are the heart's beats. This feebleness and rapidity in excess of that proper to the fever may be due—(1) To changes in the muscular tissue of the heart: e.g., softening with granular degeneration passing into fatty metamorphosis of the muscular fibres. No doubt the occurrence of these changes is favoured by long-continued high temperature of the blood. (2) To the circulation of poisoned blood through the vessels of the walls of the heart; the poison being produced in the system under the influence of the fever, or of its effects. (3) To nerve influence.

Feebleness of the heart's action due to either of these conditions may cause the death of the patient directly by asthenia or indirectly by enfeebled *vis a tergo* producing local congestions. Although the two first-named causes of cardiac weakness are the most serious and the least affected by treatment, the third is the most common, and very frequently greatly exaggerates the effects of the other two.

To avert death from failure of heart power, alcohol is the great remedy. Over defective cardiac action, due altogether to changes in the muscular tissue, when once established, or to the circulation of poisoned blood through its vessels, alcohol exerts comparatively little influence; but when the weakness and frequency of cardiac action are due to nerve influence in part or altogether, then alcohol exerts a singularly beneficial effect on the rapidity and feebleness of the heart's action.

When the patient is, from natural temperament and the effect of the fever poison, in a state of nervous trepidation, or either directly from the mental state or from some appreciable accidental circumstance giving a colour to his hallucinations or his dreams, in a state of fright; a little abdominal pain or disturbance will cause him to start from sleep or awake in fear. Under these circumstances the temperature rapidly rises—I have known it mount to 106°,—the pulse becomes extremely frequent, 150 or more, and feeble or irregular. The effect is so great in the patient's state that death has, I believe from cases I have seen, not unfrequently happened. A free use of stimulants removes all the gravest symptoms, the temperature falls, and the heart's action becomes steady; it falls in frequency and increases in power.

Mental disturbance in typhoid fever varies from trifling wandering—from which the patient is readily recalled by directing his attention to some common object or by requesting him to perform some simple act—to the most violent delirium. Delirium due to fever is never conjoined with headache; headache in typhoid fever may be most intense, delirium most violent, but the headache ceases before the delirium begins. If the delirious patient complains spontaneously of headache, then we should doubt the accuracy of our diagnosis; or if that is beyond question, then we must conclude that there is present that infinitely rare complication of typhoid fever, intracranial inflammation. Delirium is, as a rule, one of the symptoms which are influenced for good by alcohol, but it is one in which the effects of the alcohol should be most closely watched. When alcohol is contra-indicated or proves useless or injurious, the head should be shaved and cold applied either by an ordinary ice-bag or by the cold water tubing cap, or the head may be kept cold while the force of the heart's action is maintained by alcohol.

There is one nerve symptom to which I attach great and grave significance, and which is a guide to treatment—it is tremor.

Tremor is sometimes so great that the patient is unable to protrude his tongue; his jaw trembles, and his voice quivers; and if he attempts to hold any vessel, he spills its contents, not from weakness or drowsiness, but from shaking of the hands. Tremor out of all proportion to other signs of nervous prostration is evidence of *deep* destruction of the intestine. A small *deep* slough will be accompanied by great tremor; a large extent of superficial ulceration may be unattended by symptoms. Now it is deep ulcers following separation of deep sloughs which are especially liable to give rise to severe hæmorrhage and perforation. In these cases of tremor alcohol should always be given to increase nerve energy, and so to limit the sloughing and ulceration to what is the direct consequence of the specific process.

I may sum up my experience in regard to the use of alcohol in the treatment of typhoid fever thus. Its influence is exerted primarily on the nervous system, and through it on the several organs and processes; for example, the heart and the general nutritive processes—changes on which the rise and fall of temperature depend. In judiciously selected cases it lowers temperature, increases the force and diminishes the frequency of the heart's beats; it calms and soothes the patient, diminishes the tremor, it quiets delirium, and induces sleep. It should never be given in the early stage of the disease, or with the hope of anticipating and so preventing the occurrence of prostration and debility, but should be prescribed only when the severity of special symptoms, or the general state of prostration, indicates its use. Hence a large number of cases of typhoid fever end favourably without alcohol being prescribed from the beginning to the termination. It should not be prescribed when a sudden gush of blood has induced faintness, unless the faintness is so great as to threaten life immediately. Nor should it be given when, after the first few doses, the temperature rises, the heart's action becomes more frequent or more feeble, delirium increases, sleeplessness supervenes, or drowsiness deepens, so as to threaten to pass into coma. When the urine contains a considerable quantity of albumen, alcohol should not be prescribed, unless absolutely necessary for the relief of some symptom immediately threatening life, and then it should be given with the greatest caution, and its effects on temperature, the circulation, and on the urinary and other secretions, both as to quantity and quality, be carefully and frequently noted. The quantity of alcohol prescribed should be as much only as may be necessary to effect the object for which it is prescribed. In the fourth week, to tide the patient over the concluding days of the disease, it may, as a rule, be given more freely than in the second or the beginning of the third week of the disease, but it is in exceptional cases only that more than twelve ounces of brandy in the twenty-four hours can be taken without inducing some of the worst symptoms of prostration. Nearly all the good effects of alcohol, when its use is in-

dicated, are obtained by four, six, or eight ounces of brandy in twenty-four hours. Taken in excess—even when in smaller quantities it would do the patient good,—it dries the tongue, muddles the mind, or induces delirium or drowsiness approaching to coma, and diminishes the action of the secreting organs, on the healthy action of which the elimination of the materials destroyed by the action of the fever poison depends. For the last thirty years I have made it the rule of my practice in the treatment of typhoid fever to abstain from giving alcohol if, in the case before me, I *doubted* the wisdom of giving it; when in doubt I do not give alcohol in typhoid fever, and when there is a question in my mind of a larger or smaller dose I, as a rule, prescribe the smaller. The reverse of the rule I laid down for myself in the treatment of typhus fever.

In conclusion I will briefly sum up the chief points that my experience has taught me in regard of the treatment of typhoid fever:—

Typhoid fever cannot be cured; but more lives may be saved by the judicious treatment, and more lives lost by the improper treatment of typhoid fever, than of any other acute disease.

For a very large proportion of cases no other treatment is really required from beginning to end than rest in bed, quietude, fresh air, pure water, and regulated diet, although most cases are benefited by a little wine in the third and fourth weeks. If medicinal, in addition to hygienic, treatment is required, it is because special symptoms by their severity tend directly or indirectly to give an unfavourable course to the disease. At the same time, it must be remembered that the gravity of some symptom is in certain cases due to lesions of structure beyond the possibility of successful treatment—e. g., primary deep sloughs of Peyer's patches; and that other grave symptoms pass away spontaneously, although no special treatment is prescribed for their relief. When drugs *are* required to hold in check a special symptom, their use should be discontinued when the gravity of the symptom for which they are prescribed has subsided.

Temperature so high and continuous as to be a cause of danger, either directly or indirectly by favouring serious degenerative changes of structure, is present in exceptional cases only, and for such cases alone is the direct application of cold to the general surface required.

Alcohol, by the influence it exerts on the nervous system, is of the greatest value in the treatment of typhoid fever, but it should only be given for the purpose of attaining a definite object; its effects should be watched, and the dose so regulated as to attain the desired effect from as small a quantity as possible. As the treatment in reference to many symptoms is in the present state of our pathological knowledge tentative, it may have to be varied frequently both as regards continuance and dose of drugs, of stimulants, and of cold. My experience has impressed on me the conviction that that man will be the most successful in treating typhoid fever who watches its progress, not only with the most skilled and intelligent, but also with the most constant care, and gives *unceasing attention to little things*, and who, when prescribing an active remedy, weighs with the greatest accuracy the good intended to be effected against the evil the prescription may inflict, and then, if the possible evil be death, and the probable good short of the saving of life, holds his hand.

While admitting without reserve that heroic measures, fearlessly but judiciously employed, will save life when less potent means are useless, the physician whose experience reaches over many years will, on looking back, discover that year by year he has seen fewer cases requiring heroic remedies, and more cases in which the unaided powers of nature alone suffice for effecting cure; that year by year he has learned to regard with greater diffidence his own powers, and to trust with greater confidence in those of nature.

NORWICH MEDICO-CHIRURGICAL SOCIETY.—The opening meeting of this Society was held at the Norfolk and Norwich Hospital on Tuesday November, 4th; the president, W. Cadge, Esq., in the chair. The chief part of the time was taken up by an able and interesting retrospective address from Dr. Short (of Walsham-le-Willows, Suffolk); after which Dr. W. M. Crowfoot (of Beccles) read notes of three cases of Ovariotomy, which gave rise to an interesting discussion; and Dr. Wilcox (of North Walsham) exhibited a specimen of a rare deformity in a fœtus. The members dined together in the evening at Cooper's Restaurant, Norwich.

ABSTRACT OF A

Lecture

INTRODUCTORY TO

THE COURSE OF HYGIENE.

Delivered at King's College, Oct. 31st, 1879,

BY CHARLES KELLY, M.D.,

PROFESSOR OF HYGIENE IN KING'S COLLEGE, LONDON; MEDICAL OFFICER OF HEALTH FOR WEST SUSSEX.

THE lecturer proposed to give a short survey of the benefits that have been derived in recent years from sanitary progress. The labours of the Registrar-General and Dr. Farr have resulted in giving an accurate record, for the past forty years, of the general mortality of this country, the rise and fall of epidemics, and the prevalence of particular forms of illness in one locality more than another. Death-rate varies in a certain proportion to density, yet it is possible to maintain a large number of persons on a square acre if they are properly distributed. In some of the industrial dwellings and model lodging-houses the mortality is as low as in many a country village, while in the old neighbourhood around the death-rate is greatly in excess. The pulling down of old houses, the extension of open spaces, and the construction of wide streets, have done much to improve the public health. The main conditions of health are good air, good water, sunshine, and food.

The improvement in the London water-supply since the year 1848 has caused a great diminution in the deaths from cholera. In Glasgow, up to 1859, water was obtained from the impure Clyde; but since a good supply was brought from Loch Katrine great benefit ensued, for whereas in each of the first three epidemics of cholera between 3000 and 4000 people died, yet when the pure water was brought in only 68 persons died from that disease. In Manchester pure water caused the total mortality from cholera to be reduced to one-sixteenth of its previous amount. The effect of impure water in causing enteric fever was shown by the outbreak at Caterham in the early part of this year.

In reply to those who maintain that by the prevention of disease not only human life is prolonged, but that a large number of the weakly are preserved who in their turn bring up unhealthy offspring, it was shown that this notion was incorrect. The agencies which bring about death bring about disease in a much greater ratio, and sanitary improvements not only diminish the number of deaths, but diminish in yet greater proportion those cases of disease of which the deaths only form a small part.

Scurvy is a disease which has almost ceased to exist since the food-supply of the navy has been improved. Its disastrous effects in Anson's voyage were alluded to, while a few years later Captain Cook, by using proper precautions, sailed round the world and kept his crew in excellent health. Since the passing of the Merchant Shipping Act in 1867, Mr. Harry Leach has estimated that scurvy has decreased 70 per cent. in the mercantile marine.

Consumption is the most fatal disease in this country, and it is associated with cold and damp, with insufficient food and overcrowding. The deaths from this cause are now not much more than two-thirds of what they were twenty-five years ago. The better housing of the poor, the gradual rise of wages, the cheapness of clothing, and the general advance in the condition of the labouring classes, have had their share in lessening the deaths from this cause.

Ague very rarely kills anyone in the present day, though formerly it was a common cause of death. The lowering of the subsoil water and the cultivation of the surface of the land have made the fens of Lincolnshire and Cambridgeshire as healthy as the Weald of Sussex or of Kent.

The *continued fevers* have been reduced; typhus fever has not been epidemic for the last thirteen years, and the deaths from enteric fever are not so numerous as they were. The rate in this group, which in 1865 was as high as 1100 per 1,000,000 persons living, has since gradually sunk to 400. Small-pox is a typical example of the benefits produced by preventive medicine. During the past twenty-five years, during which there has been a compulsory vaccination law,

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the annual death-rate has been 216 per 1,000,000 of persons living, or about one-fourteenth of the rate of last century.

A striking instance of the value of sanitary reform may be found by examining the army returns. In the second quarter of this century the mortality among soldiers was about double the rate of that among the civil male population in healthy districts. The rates now are about equal up to the age of thirty years, after which time the soldier is more liable to disease. The result has been that the annual mortality of the army has been halved. Consumption used to be very common. In the fourteen years ending in 1846 nearly 7·86 per 1000 died from this cause, but in the eight years ending in 1866 the mortality was only 3·1 per 1000, a reduction of more than one-half. The report of the Commissioners in 1858 showed that the vitiated air of the barracks caused by overcrowding was the chief cause of this great mortality. The lessons taught us by the Crimean war are apt to be forgotten now. Insufficient and unsuitable food, bad shelter and clothing, overcrowding and defective ventilation, were the main agents in causing the spread of diseases which carried off 16,211 of our men, or about six times the number of those who were killed in action.

In January, 1855, the mortality from fever, dysentery, and diarrhœa was so enormous that the army was nearly decimated; after that time disease began to decline. Warm clothing and bedding were supplied to the troops, the food was better cooked, and more attention was paid to cleanliness and ventilation. For want of proper sanitary arrangements a large part of the army had been destroyed. The Ashantee and Abyssinian wars were waged on a small scale, yet the results showed how low the mortality may be during a campaign when due attention is paid to hygienic conditions. In the Franco-German war the Germans paid great attention to sanitary matters, and so they lost comparatively few men from disease.

The condition of our prisons has vastly improved in recent times, so much so that whereas formerly they were in so foul a state that they often proved to be dangerous centres of infection, now it is rare to find a case of fever. The prisoners are better fed, better housed, and better clad, and the result is that the mortality is very much lowered. A century ago John Howard was travelling from town to town intent on his great mission of exposing the miserable condition of the prisons in his day. He thus describes what he saw:—"Air which has been breathed is made poisonous to a more intense degree by the effluvia from the sick, and what else in prisons is offensive. My reader will judge of its malignity when I assure him that my clothes were in my *first* journeys so offensive that in a post-chaise I could not bear the windows drawn up, and was therefore obliged to travel commonly on horseback. The leaves of my memorandum-book were often so tainted that I could not use it till after spreading it an hour or two before the fire; and even my antidote, a vial of vinegar, has, after using it in a few prisons, become intensely disagreeable. I did not wonder that in those journeys many gaolers made excuses, and did not go with me into the felon wards."

The history of Millbank Prison shows that small-pox, typhus and enteric fevers, erysipelas, diarrhœa, and dysentery are all but extinct as causes of mortality. In a recent report, Mr. Gover contrasts the mortality in this prison from enteric fever in the ten years 1845-54 and in the twenty-one years following. In the first period there were fifty-seven deaths from this disease, and during the second period there were only three. In the former period, the water used in the prison was pumped from the Thames, and afterwards filtered; but in August, 1854, this supply was cut off, and good water was obtained from an artesian well in Trafalgar-square. This change was at once followed by a great reduction in the rate of sickness and mortality, and by much benefit to the health of the inmates. For the past fifteen years not one convict has contracted fever in the prison. Fatal cases of diarrhœa and dysentery seem to be absent. When the first three epidemics of cholera visited this country, it proved very fatal to many in the prison; but on the fourth occasion, in 1866, after the water-supply had been changed, the convicts entirely escaped. But Mr. Gover shows that, not only in Millbank, but in the other Government prisons, there is a like immunity from preventable disease. In the twenty years 1855-74 only eight deaths are ascribed to enteric fever among a male and female population estimated at nearly 8000; while during the five years 1870-74 only two deaths occurred in an average population of 9509. The deaths from consumption are less than half the number they were thirty years ago. The marked improvement has been due to good water, to a plain but sufficient diet, and to better cell accommodation and ventilation. And if such results can be obtained with a population drawn from the worst and poorest classes, most of whom have been brought up in misery and want, what might not be expected if the labouring classes in our large towns could be placed under the same conditions of external comfort as our soldiers and prisoners?

Infant mortality is a good test of the health of a district. Its causes are various, and depend upon social as well as upon sanitary conditions. In the most healthy districts about 10 per cent. of the children born die within their first year of life, while in large towns 20 and even 25 per cent. die in the same period. Yet even here there has been a marked improvement of late years. Dividing the last nine years into three portions, the death-rate among infants was 156 per 1000 in the first period, 153 in the second period, and 145 in the last three years. Thus, allowing for increase of population, there was an annual saving of nearly 10,000 lives in the last period as compared with the first. In all sanitary inquiries the death-rate under one year and under five years should be carefully examined. There are many towns in which children die with too great frequency, while adults are healthy. There are some small country places where the mortality in early life is as high as in some of our largest towns. The South-Eastern counties have a low rate, while in Bedfordshire it is very high. Mr. Charles Ansell has shown that among well-to-do people the infant mortality is very much less than among the poor. Collecting a large number of facts concerning the children of professional men, he found that of every 1000 infants born 80 die in their first year, whereas 149 die according to the English Life Table; from one to five years of age, of the survivors of the same 1000 children, only 46 die among the upper classes, while among the general population 113 die at that period of life. The care and attention bestowed on children in early life is rewarded by a low death-rate. In places where, from poverty, ignorance, or carelessness, children are badly fed and clothed, the mortality may be enormous. Thus Dr. Parkes found a street in Liverpool where the death-rate was so high that 90 per cent. of the children born died before completing their fifth year.

There has been a distinct lowering of the general death-rate in this country during the past seven years, but this improvement has not been uniform. The lessening of the mortality in some of our large towns is counterbalanced by the increase in places which have recently sprung into existence. And therefore, in estimating the value of sanitary work, it is not fair to examine merely the average rate throughout the country. There are many places in the manufacturing districts which are growing rapidly, and it does not always seem that sanitary work progresses in an equal degree. Again, around many towns there is a habit of building cheap dwellings just outside the local area, so as to avoid the payment of rates, and such places are generally dirty and unhealthy. If, then, the mortality of the country were stationary, it would still imply that sanitary work was doing good by preventing that rise in the death-rate which might be expected from an increased density of the population. But it is easy to go further, and to show that in many of our largest towns the effect of wise reforms has been a diminished mortality. London is, for its size, the healthiest city in the world. From a mean rate of 24·4 per 1000 in the last decade, it has fallen to 22·8 per 1000 in the last eight years, and this in spite of an ever-increasing population. Dr. Farr has shown that the increased density alone should have raised the rate to more than 26 per 1000. Then the deaths during the past five years should have been 91,423 a year, whereas they actually were 79,245; more than 12,000 lives have thus been saved annually in London alone. This result is due to an improved water-supply, to a good system of drainage, to the extension of open spaces, and to the pulling down of old and dirty houses.

In Manchester, Liverpool, and Glasgow, the great centres of commercial activity, there has been a similar decline. In Manchester the death-rate during the past seven years was 3 per 1000 less than in the preceding seven years, while during the same period the rate in Liverpool was 6 per 1000 less. Deaths from fever in Manchester during the past four years have not been much more than half as numerous as they were in the previous four years, and there has also been a marked decrease in the infant mortality.

If England be divided into two portions, one of which

contains the large town population, and the other the scattered rural population, it will be found that there is a pretty uniform difference of about 5 per 1000 in the mortality, the numbers being respectively 24 and 19. So that if all the country districts could be brought down to the rate of the healthiest places—i.e., 15 per 1000,—then we might expect that the town centres should have an average of 20 per 1000. It does not seem likely that a much lower rate will be reached, nor need you be too eager to dwell in a dreamland, where in a state of perfect health you would linger through a life of infinite dulness.

There are other conditions which greatly affect the health of a people over which sanitary work has no direct control. The death-rate is much affected by temperature. In the cool summers of 1860 and 1877 the mortality was very low. During the past wet summer, when for several weeks the temperature was below the average, the mortality in London was as low as 17 per 1000. A long cold winter causes the death of young and old, but it has not much effect on the healthy and strong adult. The most fatal results are met with when there is a great daily variation in the temperature, and when the nights are extremely cold. Prolonged and even intense cold is better borne when the air is dry, and when the nights are not much colder than the day. Great heat is fatal to infants and young children. The hot summer of 1868 caused the mortality to rise 3 per 1000 above the average, while in the cool summers of 1860 and 1879 the rate was as much below the average.

The Adulteration of Food Acts have led to a great improvement in late years. Twenty-five years ago, when THE LANCET Commission first inquired into the subject, more than half the samples were on analysis found to be impure. During the past four years there has been a marked reduction, and now less than one-fifth of the articles examined are found to be adulterated. But whereas formerly all kinds of injurious substances were added, it is now more common to find that dilution with water is the chief fault, and this, though a fraud upon the consumer, is attended with much less evil effect.

These, then, are the most important benefits which have accrued to us from the legislation of the past thirty years. But not by trusting merely to Acts of Parliament will the full gain be realised. The health and comfort of mankind rest to a great extent upon the conduct of each individual. Education and sanitary work must in the future go hand in hand if we would hope to check those causes which, amidst the conflicting elements of our social life, and in the eager struggle for existence, are ever at work tending to increase disease and suffering.

CLINICAL CASES, ILLUSTRATING SOME OF THE COMPLICATIONS CONNECTED WITH THE PASSAGE OF GALL-STONES.

BY S. O. HABERSHON, M.D.,
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(Concluded from p. 681.)

THREE times have I known patients die during the paroxysms of gall-stone, and a calculus was in each case found at the duodenal orifice of the duct. One was in a case under the care of my friend Sir William Gull many years ago; the patient had previously had renal calculus, and a calculus was found after death in the bile-duct, and another in the pelvis of the kidney. A second case I was called to see in consultation, and shortly after my arrival at the house the patient died. In a third instance a physician, the day before death, had well-marked symptoms of gall-stone. The pain was severe, and opium was given and directed to be repeated if the pain did not subside. The opium was not again taken, but a dose of castor oil. The following day the pain became intense, and the patient died before I could see him, apparently from the severity of the pain and the collapse in a man of feeble heart. Dr. Goodhart made the post-mortem, and found the calculus as I have stated.

CASE 1. *Gall-stone; pregnancy; uræmic poisoning; partial distension of cystic duct.*—Mrs. C——, seen, in consultation with Dr. Neale, October 28th, 1867, was about six months advanced in pregnancy. On the 22nd intense pain in the region of the gall-bladder came on with vomiting, but there was no jaundice. On the 25th the symptoms of gall-stone had subsided. On the 28th there was no return of sickness, but prostration and stupor; the pupils were small; the head hot; the pulse 160; the urine was scanty, and contained albumen and blood; the bowels were freely acted on, and there was a to-and-fro sound heard over the pericardium; there were some signs of labour coming on. On the 29th premature confinement took place at 6 A.M.; prostration rapidly ensued, and she sank about noon. A post-mortem examination of the abdomen was made. A large gall-stone was found in the gall-bladder, and it had distended the first half-inch of the duct to the size of the little finger; the gall-stone had then fallen back into the gall-bladder. There was no peritonitis; the kidneys were granular and congested.

In this case it was evident that the intense pain was due to the passage of a gall-stone. The calculus, however, only passed a short distance down the duct, and then fell back into the gall-bladder. It never reached the common duct, so that there was no obstruction to the passage of bile from the liver to the duodenum, and consequently no jaundice took place. The sudden subsidence of the pain and vomiting was explained by the calculus leaving the duct. There is a close sympathy between the liver and the kidney, so that albuminuria may be produced. In this case, however, the kidneys ceased to perform their normal function, and uræmia was the result; still, it is possible that the kidney had been previously damaged. Premature confinement came on, and the patient rapidly sank. The case was one of great interest, as showing the cause of sudden subsidence of pain in gall-stone—the passing back of the calculus; and also how gall-stone may produce symptoms of intense pain without jaundice, in consequence of the cystic duct only being obstructed.

CASE 2. *Gall-stone; perforation of gall-bladder; peritonitis.*—Mrs. G——, aged seventy-two, a lady who had enjoyed good health, and of active habits for her age, was suddenly seized on Feb. 5th with severe pain in the region of the liver, and with violent sickness. The bowels were freely acted on by a mercurial purgative. The skin became jaundiced, and on the 6th there was severe pain in the side. On the 9th I saw her in consultation with Dr. E. H. Galton. The patient was then extremely prostrate; the sickness had not subsided; the abdomen was distended, tympanitic, and tender on the right side; the tongue was dry; pulse 130, irritable; temperature 101°; bowels had been open. There was evident peritonitis. Opiates were given, and nutrient enemata used. She died thirty-six hours after my visit. Dr. Galton stated that on inspection effused bile had extended for a radius of about two inches round the gall-bladder. The gall-bladder was empty of bile, but contained seven gall-stones. At the posterior surface of the neck was a small circular perforation about half an inch in diameter, the sides of which were smooth, and through which the bile had escaped. The common duct was not distended, and contained no stone, neither could any stone be found either in the cavity of the peritoneum or in the duodenum. There was only a small quantity of recent lymph on the surface of the intestine, no adhesions, and only a small quantity of peritoneal fluid, but the peritoneal surfaces which had been touched by the effused bile were congested. Otherwise the organs of the body were in a good condition, excepting the uterus and left ovary, which were infiltrated with fibroid disease."

In this case gall-stone had evidently produced obstruction, and inflammation of the gall-bladder followed, causing ulceration of its walls; the peritonitis was due to the extension of inflammation and to the extravasation of bile. Although it was evident at the time of my visit that peritonitis existed, I did not expect to find such extensive perforation of the gall-bladder, for patients generally die in a few hours after biliary extravasation.

CASE 3. *Gall-stone; abscess; external opening and discharge of biliary calculi through the skin; recovery; gastric symptoms, probably from adhesions.*—Mr. ——, aged sixty, a merchant, had enjoyed good health till eight years previously, when he suffered severe pain, and was said to have gall-stone, but there was no jaundice. Various remedies were tried, but although he was partially relieved, dyspeptic symptoms continued. In September, 1866, he suffered from biliary derangement. On May 11th, 1867, after a dinner

party, violent pain came on, with vomiting and purging, and on the following day he was almost in a state of stupor; there was no albumen in the urine, the pulse was rapid, and the tongue dry. The symptoms were relieved, but he was unable to go to business. In this state he continued for several weeks; pain came on at the lower part of the liver; there were rigors and the gland became enlarged, and there was tenderness. Abscess of the liver was suspected by his medical attendant. About June the abscess began to point; but there was no constitutional disturbance, and no deficiency of bile in the alvine excretions. After a time fluctuation could be felt, a puncture was made, and a great number of biliary calculi, with fetid green pus, were evacuated. The calculi had facets. The patient then went to the seaside. In October there was a discharge of thin fluid like white of egg from the abscess, and a probe could be passed in for two inches. The sinus afterwards closed, the health improved, and he was able to return to business. The following year, in April, he became dyspeptic, and had a "bilious attack," and in June these symptoms culminated in the vomiting of coffee-ground fluid. This vomiting continued for nearly a week, but there was no discharge of blood from the bowels. The gastric symptoms were sufficiently relieved to allow the patient again to go to the seaside. Still he had pyrosis and uneasiness after food, and vomiting. In November, 1868, he returned home, but he still suffered from nausea and vomiting, but not of food, and there were shooting pains through to the back. Nitrate of silver, morphia, alkalies, oxalate of cerium, dilute hydrocyanic acid, &c., were tried, but with only partial success. He lost flesh and became greatly exhausted. At the end of February, 1869, he came under my care. He was spare, and greatly emaciated. During the previous three weeks attacks of vomiting had come on, and large quantities of mucus were ejected. There had been a cessation of the vomiting previously for three weeks. The bowels were regular; the action of the bowels relieved the vomiting. The tongue was clean; the mind was clear; he slept well; the chest was free from disease; pulse 56, and of tolerable strength. The abdomen was supple, except in the region of the gall-bladder, where a cicatrix was seen; there was much thickening beneath it, giving the idea that the duodenum and transverse colon were adherent to the gall-bladder; but there was no pain. The bowels were gently acted upon, and morphia was given. Sickness came on, especially after exertion; bismuth was then prescribed, and it seemed to afford great relief. Flatulence was a troublesome symptom, but was checked by the hyposulphite of soda. Once or twice severe spasmodic pain came on in the region of the gall-bladder; the pain only lasted a few minutes, but was sufficient to produce cold sweats. The health improved during April, and he steadily convalesced, and there has been no return of severe symptoms for the last ten years.

It was evident in this case that gall-stone set up severe inflammation in connexion with the gall-bladder; ulceration took place in its walls, and abscess followed. This abscess gradually increased in size, and reached the skin; when it was opened, offensive pus was discharged with numerous gall-stones. The sinus slowly healed. Other symptoms followed—severe gastric disturbance, &c.; and these were probably due to adhesions between the under-surface of the liver, the gall-bladder, the duodenum, and the colon. There was, I believe, some constriction at the first part of the duodenum, with perhaps ulceration; the relief afforded by the action of the bowels showed that when the transverse colon was emptied the traction upon the parts was lessened, and relief of pain was the result. By rest, by gentle action upon the bowels, by soothing the mucous membrane, and by sustaining the patient, strength was slowly restored.

CASE 4. *Old peritonitis; gall-stone impacted in the common duct; great distension of the duct; partial obstruction; thickening of the bile-ducts in the gland, and suppuration in one of the ducts in the centre of the right lobe of the liver; albuminuria; granular kidneys; death.*—Mr. ——, aged forty-two, had been engaged in the Civil Service. He was of steady and temperate habits, and when first seen in March, 1877, he stated that he had suffered from headache, from sickness, and from pain in the abdomen; the pain in the abdomen was sometimes very severe, and had been accompanied with vomiting, but he had never been jaundiced. Six years previously he had been very ill for six weeks, in September, 1874. In February, 1872, pus was said to have been discharged from the bowels with the motions. He was rather stout, leucophlegmatic in habit. He suffered from intense headache, with sickness, which came on irregularly, and was produced by excitement. Sickness generally preceded attacks of severe pain in the abdomen. There was neither cough nor palpitation; the appetite was good; the bowels acted regularly, but the discharges varied greatly in colour and in consistence. The thoracic viscera were healthy; the abdomen was supple, and no tumour nor enlargement of glands could be felt. The urine had specific gravity of 1021, and was free from albumen and from sugar. There was much disturbance of the nervous system. On the 28th March, after feeling better, he partook of veal, and in the night was seized with severe colic. These symptoms were soon relieved, and he went on tolerably well till December, 1878. I saw him in consultation with Dr. Iliff on the 30th. A month previously, November 9th, he had a chill and felt poorly, and he experienced pain in the region of the gall-bladder. On December 20th the pain in the region of the gall-bladder became agonising. There was vomiting and sallowness of the countenance; the urine was deep in colour; the pain subsided, but excessive sickness continued. On the 30th his complexion was semi-jaundiced; he was restless; the pulse 80; there was no febrile excitement, and the respiration was quiet; the tongue was congested and patchy. The urine was scanty; about half a pint was passed; it was smoky, sp. gr. 1015, and highly albuminous. He had pain in the back, and the bowels were confined. But the most prominent symptom was excessive irritability of the stomach. The liver could be felt about an inch below the ribs, and there was tenderness in the region of the gall-bladder and at the scrobiculus cordis. On Jan. 3rd carbonate of bismuth in effervescence was given; aperient injection was administered, and was followed by a nutrient one after the action of the bowels. The pain had subsided, but there was still great irritability of the stomach. The countenance was sallow, and the patient more prostrate. The bowels had acted freely, and contained bile; the vomited matters also contained bile; the urine was pale, and did not contain the colouring matter of bile. The nutrient injections were repeated, and three grains of quinine added to each. On Jan. 6th he was cold; the pulse was failing. There was still vomiting of brown, bilious-looking fluid; the bowels acted, and contained bile, and there was some tenderness at the scrobiculus cordis. He lingered till about midnight of the 11th.

Inspection was made by Dr. Goodhart sixty hours after death. The body was well nourished. The head was not examined.—Chest: The ribs were ossified; the lungs were rather emphysematous, but otherwise quite healthy; the heart was healthy, and there was no hypertrophy of the left ventricle. The abdomen was shrunken; all the intestines were empty and collapsed; the coils were carefully followed up from the ileum to the duodenum, but no obstruction nor abnormality was found, except that the lower part of the ileum was adherent at the bottom of Douglas's pouch, as the result of old peritonitis. On tearing this away some dark-coloured grumous blood escaped from the canal of the ileum, but this was probably dependent on decomposition, which was somewhat advanced. The hepatic flexure of the colon was adherent to the liver in the region of the gall-bladder, and both were adherent to the abdominal walls by a small adhesion of old date. There was no recent inflammation of any kind. The gall-bladder was contracted into a mere relic, and the parts around it were so much puckered over it and adherent (the colon, liver, lesser omentum, and stomach) that some dissection was required before it was visible. Its coats were thickened, its cavity was scarcely larger than the size of a pea, and it was empty. There was no suppuration around the gall-bladder. The hepatic and cystic ducts were both dilated, particularly the former; and just beyond the junction of the ducts was an oval gall-stone, about an inch in length and a quarter of an inch in breadth, generally smooth, but with a few small tubercles upon its surface. The gall-stone was placed lengthways along the channel at the commencement of the common duct, leaving about an inch and a half free between the stone and the duodenal opening. The mucous membrane around it was a little irregular, but scarcely ulcerated, and there was no suppuration. The duct beyond the stone was dilated nearly as much as the part behind. The stone was fairly impacted, and nothing would pass it till the tube had been opened up. The common duct and the hepatic duct contained a little orange-coloured bile. The portal vein was healthy. The liver was of normal size; its exterior

appeared quite healthy; on section, all the bile-ducts were thickened, but none were dilated; most of them contained a little thick bile; one of the largest of them in the centre of the right lobe was very much thickened, and contained some thick reddish pus. When this was removed the walls were seen to be rugged and rough for two inches or so. The inflammation at this part had spread to the neighbouring branch of the portal vein, which contained some adherent, ante-mortem coagulum. The duodenum contained some dark bile-coloured contents in small quantity, so also did the rest of the small intestine, but the intestine was practically empty. The colon contained a moderate quantity of dark bile-coloured fæcal matter. The kidneys were granular, and the cortical substance was very ill-defined and diseased.

It was evident in this case that there had been previous attacks from gall-stones, and inflammation of the gall-bladder and in its neighbourhood. This inflammation had led to destruction of the gall-bladder, the remains of it constituting a small shrivelled mass, and had also set up the peritonitis which was the cause of the adhesions both in the neighbourhood of the liver and in the small intestine. The discharge of pus from the bowel several years before death was probably connected with the local inflammation of the gall-bladder. From this attack the patient recovered, but continued to suffer at times from pain in the region of the right hypochondrium and round the body. The fatal illness commenced with the passage of a gall-stone; there was the intense pain, the sickness, the jaundice, the altered character of the excretions which we find in that complaint. The intense pain was protracted, but on its subsidence considerable tenderness and excessive irritability of the stomach continued. The bowels were then confined; and the question arose whether a gall-stone had ulcerated through into the duodenum and had become impacted in the small intestine. The action of the bowels, however, showed that this was not the case; at the same time it was found that the urine, which had previously been free from albumen, was now very scanty; it was smoky in colour, and highly albuminous. This condition of kidney was an unfavourable complication in the case, and either arose from sympathy with the hepatic disease, or was the result of inflammatory disease of the kidney. The albumen lessened in quantity, but did not disappear. The renal disease tended to keep up the irritability of the stomach, and it increased the exhaustion; it was believed that the gall-stone had passed, although it was not detected, and the alvine discharges were all carefully washed and strained. The post-mortem examination showed that in this we were mistaken, for the gall-stone was found in the common bile-duct. It was, however, evident that bile passed from the liver, for the vomited matters contained bile and also the fæces were of a bilious colour, and the explanation seemed to be that the gall-stone did not remain impacted in one part. The duct was distended as far as the duodenum, and I believe that the obstruction was not complete; that the duct became so distended beyond the calculus that bile passed, when the spasm was relieved. The form of the calculus would allow this: it was not a round one, as we generally find, but about the size and shape of, though rather less broad than, an ordinary sweet almond. The soreness and local pain which persisted in the region of the gall-bladder were referred, and, as the post-mortem showed, correctly, to local inflammation. There had been old inflammatory thickening of the ducts, and peritoneal adhesions, but the evidence of inflammatory change was greater within than without the ducts. At the seat of obstruction the duct was irregular and roughened, and in one of the ducts in the right lobe of the liver there was a collection of pus. Dr. Goodhart described this as true pus, and very different from a mere collection of thickened mucus. The case was one of great interest, and of obscurity in diagnosis; we expected more acute inflammation external to the ducts, whereas the acute change was within the ducts themselves.

In connexion with the passage of gall-stone and its complications, I may refer to a remarkable case published in my work on Diseases of the Abdomen, in which a very large stone gradually ulcerated through into the duodenum with scarcely any symptom. Insuperable obstruction occurred from the impaction of the calculus in the ileum, but the cause of death was hæmorrhage from the ulcerated opening between the liver and duodenum. Other cases might have been given, and the tendency that sometimes exists to the development of malignant disease at the part after the irritation of gall-stone might have been freely illustrated; but the cases recorded will suffice to show some of the dangers that may attend a disease that generally terminates favourably. To know the danger will often help us to guard against it.

DESCRIPTION OF AN APPARATUS USED AFTER EXCISION OF THE KNEE.

BY HENRY SMITH, F.R.C.S.,
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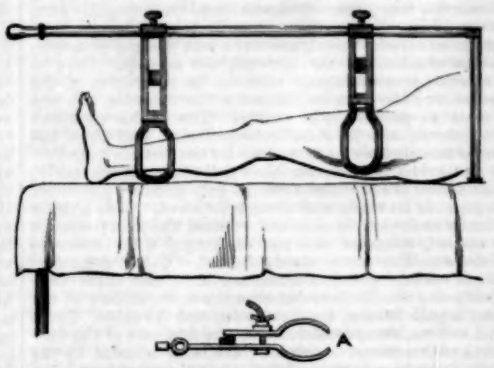
THOSE who have had the opportunity of carefully watching the course of severe surgical cases where the antiseptic treatment, strictly so termed, has been applied, will be convinced of its enormous influence in bringing about the healing of wounds and in saving life. The observation of some cases which were under the care of my friend and colleague, Mr. Lister, when he first joined our hospital, convinced me of the value of the means he adopted; and in a large proportion of the more severe operations of surgery I follow this method carefully, and the results have been most gratifying.

To no class of cases does the antiseptic plan of treatment so well apply as to those where extensive operations are required about the large joints. This is especially seen in instances of excision of the knee-joint; but hitherto there has been one objection to its application, inasmuch as it was necessary to remove the limb from the splint in which it was confined at the time of the operation, in order that the dressings might be effectually employed. This obvious and forcible objection has now been done away with through the ingenuity of one of my pupils, Mr. A. Morris, who, having heard me speak about the matter on various occasions, had an instrument constructed which I at once saw would serve the required purpose admirably. At first the clamps were fixed, but on my suggestion Mr. Morris arranged that they should be movable, and this is an advantage. Both Mr. Bell and I have tried the instrument, which I would call a "suspending lift," and we find it well adapted for the object in view. My thanks are due to Mr. Morris



for his ingenuity. The accompanying sketch of the apparatus is by my pupil Mr. Donkin, and it may be described as follows:—

The instrument consists of three parts—a brass rod, an iron upright, and two clamps. The brass rod, including a wooden handle, is 50 in. in length. At the opposite end to the handle, the rod is fixed at a right angle to the iron upright by means of a screw, which admits of slight movement. The rod is cylindrical and hollow. The iron upright is 16 in. in length. The lower end is fixed into the centre of a narrow bar of iron 5½ in. long, which is placed transversely to the brass rod. Four inches from the upper end of the upright there is a curve inwards (not shown in diagram), which allows the brass rod to come over the line of the axis of the leg. The iron clamps are so placed that they can be moved backwards and forwards, and fixed at any point (by means of screws) on the brass rod. The grasping part of the clamp is made on the same principle as the obstetric forceps; a good grip can be made without painfully squeez-

ing the patient's leg. The blades open of their own accord by means of the simplest steel spring, and are closed by the aid of a nut-screw.

Wimpole-street.

PAROXYSMAL HÆMATURIA.

By JOHN E. NEALE, M.R.C.S.,
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THE following are notes of a case admitted under Mr. Cowell on July 26th, 1878.

H. MacM——, thirty-one, a carpenter for the last seventeen years, was born in Liverpool, where he lived until ten years of age, when he went into Norfolk, and thence, in 1868, to Chicago, returning to London in 1870, where he has lived ever since. Family and previous history good. Had gonorrhœa twelve years ago. Never remembers a day's illness until March, 1878, when, in a gale of wind, some sheds on which he was working in Woolwich dockyard were blown down. He was severely hurt in the back, and rendered insensible for some hours. On regaining consciousness he complained of great pain in the back and sides. From the very first, after the accident, patient says that his urine at times has been the colour of porter. Does not know when one of the attacks is coming on, but remarks that his urine never becomes dark during the night, and invariably gets paler towards evening. This condition of his urine was never noticed, he says, until admission into the Westminster Hospital, when one morning, during the usual examination of urines, I noticed the peculiar characters to be described later on.

On admission, the patient was a well-made, healthy, though somewhat anæmic-looking man, with a dull, anxious expression about him. Temperature normal. He complained of a constant, dull, and gnawing pain in the left lumbar region near the spine; the pain at times was also shooting, especially on movement; no tenderness along the spine; no loss of power or sensation in the lower extremities; complete loss of sexual desire. Formation of the chest and its physical signs good, except a slight pleuritic rub over the left side, just to the left of the cardiac region. Heart-sounds healthy; no murmurs. Tongue moist, pale, furred on dorsum; appetite bad; no nausea, vomiting, or diarrhœa; bowels regular; slight difficulty complained of at the commencement of micturition, with nocturnal increased frequency. There was great tenderness over the left renal region, but no enlargement in or around the kidney could be detected. Urine: specific gravity 1018; faintly acid, of a deep port-wine colour; clear, with a slight amorphous sediment. On boiling, an amorphous, flaky precipitate formed, which immediately dissolved on adding a drop of nitric acid, but reappeared on the mixture cooling; when cold, nitric acid gave an abundant precipitate at the junction of the two liquids, which did not dissolve on applying gentle heat, but did so almost entirely on shaking up the two liquids. Acetic acid, when added to a boiled specimen of the urine, did not dissolve the precipitate, unless the former was in great excess. Microscopically, not a single blood-corpuscle, or trace of one, could be discovered. There were numerous crystals of oxalate of lime, amorphous urates, a few small, granular casts, some of them containing beautiful rhomboidal crystals of hæmoglobin. Here and there were a few vesical and renal epithelial cells, while scattered over the field were numerous oval or irregular brown-red pigmented masses. Filtration produced very little effect on the colour of the urine. Spectrum analysis yielded the well-known oxy-hæmoglobin bands. The bands, though distinct, were not very dark or of any breadth. After a while another band could be seen in the orange, corresponding to one of the bands seen in the solutions of hæmoglobin which had been standing for some time. By adding some solution of sulphide of ammonium to the urine, the reduced hæmoglobin band was obtained, while by rendering the urine alkaline with some liquor potassæ and then adding a few drops of sulphide of ammonium, a well-defined reduced-hæmatin band was seen. This specimen was passed during the morning of the 25th. That evening the urine was almost normal in colour and character. At 11 A.M. on the 26th the urine was of a claret colour, with similar characters as on the 25th. A specimen examined, which was passed at 5 A.M. on the 27th, was normal, as also some passed at 7.30 P.M. on the same day. On the 28th, between 1 P.M. and 6 P.M., patient again passed some dark-coloured urine with similar, though not with such decided, features as above described. On the 29th the urine was examined frequently during the day, but presented normal appearances and reactions.

On July 26th, patient was ordered five grains of quinine three times a day, with the application of blisters to each side of the spine. From the time the latter thoroughly took effect the patient appeared free from attacks, and seemed to improve in general health, though the pain over left renal region, and also over left side of chest, did not alter much. His temperature has remained absolutely normal since admission, and on August 12th he was allowed up in the evening. He continued in same state until August 20th, when on that day his temperature suddenly rose from normal to 103·4°, and next morning signs of pleurisy of left side developed themselves. He was transferred to the medical wards.

While in the surgical wards his daily quantity of urine varied from 40 to 80 ounces, with no reference to the paroxysmal changes in its character. The same may be mentioned as regards the quantity of urea passed.

From the 28th July to the 20th August the urine remained normal in colour and in chemical and microscopical appearances.

His blood was frequently examined under the microscope both during and after the urinary changes, but, except increased size and pallor of the red corpuscles, an increase in the relative proportion of the pale to the red corpuscles, together with numerous irregular, highly refracting amorphous masses floating about in the liquor sanguinis, nothing could be discovered.

His attack of pleurisy was a severe one. His temperature from Aug. 21st to Sept. 30th never fell below 99°, rising every evening to 103° or more. From this date the morning temperature was generally normal, while at night there was generally a rise of 2° or 3°.

On Oct. 25th, without any known cause, the patient had a well-marked rigor at 10.40 A.M., his temperature rising from normal to 104°. It, however, soon fell, being 100° at 3 P.M., and normal at 11 P.M. There was no change in the urine, which had never presented any of the peculiar features observed during July, since his attack of pleurisy. On Oct. 30th, however, without any previous symptom, he again passed at 4.30 P.M. *dark-coloured* urine, which presented nearly all the characteristics described above, except there was an absence of oxalate-of-lime crystals and also of the pigmented particles. There was no alteration in the temperature during this attack. Next morning the urine had again resumed its usual appearance. On Nov. 12th the patient had another rigor at 9.30 A.M.; temperature 103°; no urine changes. On Nov. 16th, at 9.30 A.M., another rigor, followed at 11 A.M. by eight to ten ounces of cherry-red coloured urine. In the afternoon colour again normal, and urine contained not a trace of albumen.

From this date until November 28th, when patient walked out of the hospital of his own accord, his temperature remained normal, and there was no return of urinary symptoms.

No abnormal ophthalmoscopic appearances were present during his stay in hospital.

Finally on November 18th a note was made that there was distinct prominence and tenderness on pressure over tenth, eleventh, and twelfth dorsal vertebræ.

Remarks.—The above notes illustrate many interesting features connected with a rare condition of urine, which has been called by various authors "paroxysmal hæmaturia," "hæmatinuria" or "periodic hæmoglobinuria." The first term is, in our present knowledge, the best one to employ, as it merely indicates the nature of the attacks, and that the urine contains blood, whereas the others imply a definite chemical composition which I wish to show in the following remarks does not exist. The best description of this disease is to be found in Roberts's "Diseases of the Urinary Organs," where a summary of twenty cases is given. Since then (1876) others have appeared in the medical journals, while there was a case under Sir W. Jenner in University College Hospital during 1876, which I may have occasion to refer to subsequently.

In the case reported, the onset of the disease seems to be clearly traced to an injury of the spine. Most of the cases reported were traced either to a malarial origin or were brought on by exposure to cold and wet. Sir W. Gull asserts that "a blow or an injury may be the cause of this affection," though Dr. Roberts seems sceptical on the point. Sir W. Jenner's case belonged to the set brought on by exposure to cold or wet. The onset of these attacks was peculiar. At first there were no premonitory symptoms, and so little disturbance produced that he was in a hospital for several weeks without his urinary mischief being discovered. There was no alteration in his temperature, except on one occasion, Nov. 16th, when he had a well-marked rigor, followed in two hours by the passage of some dark-coloured urine. On October 25th and on November 12th he had a similar rigor, but no subsequent urinary changes, so that this single instance might have been only a coincidence.

Another interesting point is the apparent influence counter-irritation and quinine had on the paroxysms. From the time the blisters took effect the paroxysms ceased, as well as during the whole attack of pleurisy, but they recurred as patient became convalescent. This change was even noticed by the patient himself, who on August 5th remarked that he never remembered an interval of forty-eight hours to have elapsed between the paroxysms since the accident. Like most of these cases, the paroxysms never occurred during the night, lasted only a few hours, while other symptoms which have been observed—viz., retching, vomiting, pains in various parts of the body, and retraction of the testicle—were always absent. The urinary changes are, however, the most interesting, both clinically and pathologically. Its colour and the absence of the usual "smoky" appearance would immediately draw one's attention to the difference between this condition of urine and ordinary hæmaturia, while its microscopical and spectroscopical characters give to it diagnostic signs—viz., the complete absence of red blood-corpuscles, a deposit consisting principally of amorphous granular matter (urates), numerous crystals of oxalate of lime, a few hæmoglobin crystals, together with pigmented masses exactly resembling those found in the spleen, liver, and thymus gland.

With the spectroscope, evidence of hæmoglobin in solution was obtained. The nature of the spectrum, however, proved that the quantity must be very small, and on comparing it with that obtained in only very slight cases of ordinary hæmaturia of renal origin, the latter was found to be more defined. This fact of itself is of great interest, as proving that the intense colour imparted to the urine is not due to any solution of hæmoglobin. It is not due either to *hæmatin*, for this substance not only has a definite spectrum of its own, but only exists in alkaline solutions of hæmoglobin, whereas the urine in this case was always acid. Neither is it due to the presence of *hæmin*, this body always occurring in a definite, easily recognisable crystalline form.

The pigmented masses, observed under the microscope, resembled very closely similar ones seen in the spleen, liver, old collections of blood, &c., and known as *hæmatoidin*. Filtering with very fine paper often caused marked diminution in the intensity of the colour of the urine during the paroxysms, as if the pigment, whatever it was, were suspended in the fluid.

Where this sudden destruction of the red corpuscles and rapid transformation of the colouring matter take place, is not yet capable of proof. It does not seem to take place in the circulating blood, for none of these pigmentary particles could ever be detected in the blood. Experiments were made to see whether there was any peculiar tendency in the patient's urine to dissolve the corpuscles, but none was found. The theory that the changes are due to "sudden and transitory congestion of the renal capillaries with escape of their contents without rupture of their walls," is decidedly negatived by the above observations.

The paroxysmal nature of the attack and the chemical peculiarities of the urine, more especially the presence of oxalate of lime, and albumen in a modified form, at first, which, towards the end of the paroxysms, gradually assumed its ordinary characters, point to some sudden and transitory functional derangement of one of the organs employed in the destruction of the red blood-corpuscles. Some light might have been thrown on the nature of this complaint by estimating the number and relative proportions of the blood-corpuscles before and during the paroxysms. This would have been done in this case by Dr. Gowers' method, had not the patient left the hospital before any standard could be obtained from which satisfactory results could be deduced.

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STAMMERING OF THE VOCAL CORDS.

By PROSSER JAMES, M.D.,

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THE affection to which attention is here directed is not a mere curiosity. It may entirely suspend the work of clergymen, barristers, singers, and others, who make a professional use of the voice, and I have known it seriously interfere with the business of a mercantile man. It has been familiar to me for some time, but the first account of it was contained in a paper I submitted to the meeting at Cork last August, entitled "A hitherto undescribed Laryngeal Affection."

The disease appears to be due to defective co-ordination of the intrinsic laryngeal muscles. The vocal apparatus fails at intervals to fully obey the will, the failure giving rise to sudden interruptions to the voice, while the articulating power may be unaffected. As, in the generally recognised impediments of speech, the harmonious action of the groups of muscles engaged in articulation is disturbed; so, in this vocal derangement, which I have termed stammering of the vocal cords, there is an analogous laryngeal motor disturbance. The disordered co-ordination which so commonly interferes with speech here affects the voice only. The movements required for articulating syllables are perfectly performed, but the production of vocal sound is at intervals suddenly suspended. Syllablization—to coin a word—is complete, phonation defective. The affection may cause the patient to stop speaking, as he is conscious of what he sometimes calls "a catch in the breath"; or he may continue a sentence from which some words will be lost to the listener. A year or two ago a patient under my care, who suffered from this affection, was careful to explain that though he called it a "catch in the breath," he knew well enough that the stop in the sound had no more to do with respiration than with articulation. A clergyman, who suffered from the disease in an aggravated degree, was deeply distressed by his consciousness of the fact that, though he kept on reading the service, some of the words dropped soundless from him, a statement verified by friends who accompanied him, and assured me that his lips moved in the usual way for the utterance of words and phrases which were lost in silence. He had been under treatment for a considerable period, and assured me that he had a "clergyman's throat," which had been attempted to be cured by severe measures, none of which had had any effect on his malady. I found the defective action of the cords, the larynx being otherwise healthy, and was thus able at once to put him on the road to recovery.

The sudden interruption of function of the vocal cords is exceedingly difficult to demonstrate; it is not likely to occur during the production of such sounds as are usually emitted in laryngoscopic examinations. I had to watch for a long time and to devise special methods before obtaining ocular demonstration of this stammering of the vocal cords. Isolated sounds are generally correctly articulated even by confirmed stammerers; so it is in these vocal impediments, the patient can emit separate tones, and may, as could the clergyman named, run up and down the gamut. It is in the rapid emission of certain combinations of sounds that the sudden arrest must be watched for. The vocal cords may, with patience, perhaps be observed at the moment when they hesitate or tremble, at a point not sufficiently approximated for phonation, where they may seem to move as with a series of ineffectual efforts to obey the will, or display the irregular, paroxysmal, or spasmodic actions seen in the mouths of stammerers. In less aggravated cases there may be less distinct interference with voice production, analogous to the defects of utterance called "hesitation of speech." In fact, I may state broadly, that most of the derangements commonly

grouped under the expressive term "impediments of speech" may henceforth be said to have their counterparts in similar vocal impediments occurring within the larynx.

Dean-street, Park-lane, W.

CASE OF RUPTURE OF THE POPLITEAL ARTERY.

By JAMES ADAMS, M.D., M.R.C.S.

W. H——, aged sixty-seven, a man of spare body, never very strong or robust, and having some weak action of the heart, was amusing himself on Oct. 14th, 1878, in felling a fir tree. The tree had partially fallen and had caught in the branches of another tree, when he proceeded to saw through the bit of trunk that remained. The tree suddenly tilted up, and struck him on the left eyebrow, but he had commenced to jump backwards before he was struck, and, in jumping, fell down, receiving what he considered to be a severe strain in and about the right knee-joint. I saw him about two hours after the accident happened, and found him suffering severely from shock, with cold perspirations, pallid countenance, and in great pain, chiefly referred to the right leg and knee. There was slight luxation of the lower articular surface backwards, which was easily set right by moderate extension and counter-extension. After this he could, without difficulty, bend the knee-joint, although doing so was attended with pain. The joint was swelled a little. There was no external wound here or elsewhere, save on the left eyebrow, and no injury to any bone could be detected. I gave him hot brandy-and-water, and ordered hot applications to the knee and limb below, and an opiate at bedtime.

The next day he was easier, and could bend the knee without much pain, and had pretty well recovered from the shock.

Oct. 17th.—Leg swelled, cold, and blanched, and, in spite of hot-water bottles and extra blankets, it could not be got warm; great pain in ankle-joint and lower half of leg generally. No pulsation could be felt in the tibial arteries nor in the popliteal. Patient restless and uncomfortable. Good deal of ecchymosis in popliteal space and lower half of thigh.

19th.—A small gangrenous spot appeared on the outer part of foot, and a bulla on the inner side close to the ankle. I informed him that he had probably received severe injury to a large vessel, and that amputation of the limb was necessary.

Two days after this Mr. Swain, of Devonport, saw the patient with me, and corroborated my opinion as to diagnosis and the necessity of amputation above the knee, as the symptoms clearly indicated injury to the popliteal artery.

On Oct. 23rd I amputated the limb about four inches above the knee. Mr. Swain and his partner Mr. Thom assisted me at the operation, as also did Mr. Utting, of Moretonhampstead. Thanks to such able assistance, the operation was performed with very little loss of blood—a matter of vital importance in this case, where age and previous weak health made the patient an unfavourable subject for such a severe operation. In the popliteal space and lower third of the posterior part of the thigh a large quantity of blood had been effused, but none quite recently. The popliteal artery was completely ruptured, being divided as cleanly as with a knife; the divided ends were an inch apart. The distal end was plugged with a clot; the proximal end was patent. There was no atheroma nor disease of any kind apparent in the vessel. I had no opportunity of dissecting the joint carefully to see whether the posterior ligament was lacerated; probably it was. The patient bore the operation well. The posterior flap, which was infiltrated with effused blood, suppurated freely, and sloughed in some places. For six weeks he continued in a critical condition, but after this he began to improve, and the stump slowly healed up.

This case is another illustration of how completely the popliteal artery may be divided by a wrench of the knee-joint without any fracture of a bone or any external wound.

Ashburton, Devon.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. GEORGE'S HOSPITAL.

CASE OF HYPOSPADIAS.

(Under the care of Mr. T. PICKERING PICK.)

PLASTIC SURGERY, or "restorative surgery" as it is sometimes called, is always a subject of great interest, and one which merits the careful consideration of every practical surgeon. Operations performed for the cure of deformities, the relief of hare-lip, the restoration of a nose, the closure of a fistulous opening, and such like, form a class in themselves, and require special attention and care on the part of the operator, if he would bring his case to a successful issue. At the same time there are perhaps no cases which are so satisfactory when successful, and which bring greater credit to the surgeon. Deformities are always of a distressing nature to the patient, and entail a great amount of suffering, either bodily or mental, and any operations which can be performed for their relief are eagerly sought after and gladly welcomed. The following case of hypospadias is recorded as affording a good example of what may be achieved in a form of malformation not unfrequently met with, and which, though it does not entail much bodily suffering, is the cause of very considerable mental distress to the patient.

Henry B——, aged thirteen, was admitted on Jan. 19th, 1875, suffering from hypospadias. The penis at first sight appeared to be quite rudimentary, consisting merely of the glans, which, however, was well developed and was covered on its dorsal surface by a considerable semilunar fold of skin and cellular tissue, which formed a sort of hood to it. This was the prepuce, malformed by being cleft on its under surface, heaped up on the dorsal aspect of the glans into a semilunar fold, and attached by its extremities to the scrotum on either side of the rudimentary penis. Upon examining more closely, it was found that the body of the penis was bound down to the scrotum by a broad fold or web of skin. When erection took place it was arched, with the convexity upwards. The orifice of the urethra was in the scrotum, at the anterior extremity of the median raphe, and was situated at the bottom of a sort of fossa or cul-de-sac in this situation. Just above it was the glans penis, overhanging the orifice, and in the centre of the glans was a slight depression in the normal position of the meatus urinarius. The boy was a fine-grown, healthy, intelligent lad, and presented no other malformation.

The first operation (Feb. 10th) consisted in making a transverse incision through the whole thickness of the semilunar prepuce just in front of its attachment to the corona glandis, so that it was only attached to the sides of the scrotum and penis by its two extremities. The mucous membrane at the margins of the incision was then stitched to the corresponding skin on either side, and the glans penis was protruded through the button-hole opening which was thus made. By this proceeding the malformed prepuce was brought down beneath the glans penis, and formed a sort of bridge stretching across from one side of the organ to the other, while the glans protruded through the opening thus made. The wound took some time to heal, but eventually did so, and a passage then existed between the inverted prepuce or bridge of skin and the under surface of the glans penis, which was intended to form part of the urethra.

The second step of the operation (May 12th) was undertaken to liberate the body of the penis from the scrotum. This was done by dividing the web of skin which connected the two together, and thus gradually raising the penis. The result of this was a large diamond-shaped raw surface where the one organ had been separated from the other. The edges of this surface were drawn together by hare-lip pins, so as to

convert it into a longitudinal wound. In performing this operation care was taken not to interfere with the points of attachment of the bridge of skin formed by the inverted prepuce, by making the incision a little posterior to it, for fear that its vitality might be destroyed.

After the wound had healed, it was found that there was a fairly-formed penis, about an inch in length. At the anterior extremity of this was the glans, with the inverted prepuce on its under-surface. On the anterior surface of the scrotum, some distance below the point of attachment of the skin of the scrotum to that of the penis, was the opening of urethra. The space between these two points—that is to say, the glans penis and the opening in the scrotum—was occupied by the cicatricial tissue which was the result of the previous operation, and was intended to form the roof of the new urethra.

The third step (June the 26th) consisted in bringing over two oblong flaps to form the floor of the urethra by a somewhat similar operation to that which is described and advocated by Mr. Holmes for extroversion of the bladder.[1] On the left side an oblong flap, with its base towards the middle line, was dissected up from the tissues on the sides of the scrotum and penis, so that its attached border was some little distance to the left of the middle line just external to the cicatricial tissue before mentioned. This flap was turned over, like the leaf of a book, so that the skin surface was directed towards the opening in the scrotum, and was intended to form the floor of the urethra, and the raw surface turned outwards. On the right side an oblong flap was fashioned, one side of the flap skirting the right border of the cul-de-sac or fossa in which the urethra was situated, and being carried upwards and to the right side of the penis; a second incision was made parallel to this, and about an inch external to it, and the two joined by a cross incision at their lower extremities, so that the attached border was directed upwards and outwards. This flap, having been dissected upwards, was applied to the raw surface of the left flap by gently sliding it round, in the manner described in the operation for extroverted bladder, and the two flaps were united together by several points of silver suture. The wounds caused by the transplantation of the flaps were also closed by suture. Union took place very readily, and we had now a second bridge of skin which covered over the linear cicatrix in the middle line, which had been formed as the result of the operation for separating the penis from the scrotum. This bridge extended from the opening of the urethra below almost to the glans penis above. The next step (July 10th) consisted in attaching the lower margin of this bridge to the skin of the scrotum below the opening of the urethra. This was done by rawing the lower border of the flap and implanting it into a transverse groove which was made in the front of the scrotum, just below the fossa, by slightly dissecting up the skin, so that the flap was dovetailed, as it were, into the skin of the scrotum, and fixed there by silver sutures, and thus the opening into the cul-de-sac from below was closed.

This operation was not entirely successful, a small fistulous opening being left at one point, but this was subsequently closed July 24th, and the urine now flowed over the flap or bridge, and was discharged above its upper margin. The final step in the proceeding consisted in attaching the upper border of this bridge to the lower border of the inverted prepuce. This was done by rawing the two margins, and sewing them together with several points of silver suture. During the attempt to close this opening the water was drawn off, and the patient was not allowed to pass any of himself, because it was feared that some of the urine might find its way between the edges of the wound and interfere with union. The result, however, was most satisfactory; complete union took place throughout the entire length of the wound. The series of operations were now completed, and a sort of canal had been formed which extended from the opening of the urethra in the front of the scrotum to the base of the glans penis, which it was hoped would be sufficiently perfect to enable the patient to perform the act of copulation with the result of ejecting the semen into the vagina, a proceeding which would clearly have been impossible previous to the performance of the operation.

Four years have now elapsed since the case was completed, and the following is the condition of parts:—The boy is just eighteen, but does not look more than sixteen. The penis is small, but otherwise well developed. On the under surface of the organ is a canal, which has been formed as above described, which extends from the corona glandis to the original orifice of the urethra in the scrotum. This canal is rather large, so much so, in fact, that it would be possible, with a certain amount of stretching, to introduce the little finger. It is about an inch and a half in length, and by dilating its orifice one can see at the bottom the opening of the urethra on the anterior wall of the scrotum. There can be little doubt from the condition of the parts that all the natural functions could be satisfactorily performed.

[1] Surgical Diseases of Children, page 149.

WEST LONDON HOSPITAL.

URETHRAL CALCULUS IMPACTED BEHIND A TIGHT TRAUMATIC STRICTURE; CONTINUOUS DILATATION; SPONTANEOUS EXPULSION OF THE STONE; PATIENT ATTACKED WITH PLEURISY WHEN ABOUT TO RETURN HOME CURED; DEATH.

(Under the care of Mr. TEEVAN.)

GEORGE O——, a labourer, forty years old, was admitted into the hospital on Jan. 7th, 1879, having been put under Mr. Teevan's care by Dr. Hurdwood, of Leatherhead. From notes taken by Mr. Warrilow, the house-surgeon, it appeared that the man was formerly a soldier, and had suffered from fever in India, and from ague in the Mauritius. In 1865, whilst engaged with some soldiers at St. Helena in hoisting a gun from a boat into a ship, the gear broke. Several of the men were killed, and the patient fell astride the gunwale of the boat. Blood escaped from the penis, and a swelling formed in the perineum. He was taken into the military hospital, where an incision was made into his perineum, much blood and urine flowing out. For three years he had been troubled with difficulty in making water, for which he sought advice, and had the stricture dilated to No. 12 E. On several occasions he had rigors, and suffered from pain in the loins. Two weeks ago no instrument could be passed.

When admitted into the hospital he was thin and sallow, had difficulty in micturition, and his urine contained some muco-pus. The scrotum and perineum were scarred with many cicatrices. No catheter could be introduced through the stricture, which commenced just in front of the bulb. An olivary whalebone bougie was wriggled through the contraction, and struck what was apparently a calculus, which could not be felt through the rectum or perineum. With a little trouble the bougie was worked past the obstruction into the bladder, and there retained.

On January 9th the instrument was removed, and two hours afterwards the patient expelled a phosphatic calculus about an inch long, resembling a piece of the stem of a common clay smoking-pipe. The stricture was gradually dilated, an olivary elastic catheter being passed every other day. During the whole of the period the patient was up and about the ward giving a helping hand.

On January 28th Mr. Teevan introduced No. 20 F., and, as the patient was able to pass the catheter for himself, he arranged to return home in a few days.

On the 30th Mr. Warrilow introduced No. 20.

On the 31st, 9 A.M., patient stayed in bed, complaining of headache and pain in the limbs. Pulse 100; temperature 99·8°. Temperature 100° at 8 P.M.

On February 1st he was more indisposed. Temperature 103°; pulse 120. In the evening he suffered much from dyspnœa and paroxysmal pain in the left hypochondriac region. Had a subcutaneous injection of morphia, which relieved the pain, and an enema, which removed the constipation and tympanites. The abdomen was covered with a linseed-meal poultice. Ordered brandy, milk, and ice.

February 2nd.—9 A.M.: Great pain in region of heart. Countenance anxious. Knees drawn up. Abdominal tenderness in left hypochondriac region. Pulse 99; temperature 120°. At 5 P.M. the patient commenced vomiting a clear fluid at intervals. Tongue covered with a thick yellow fur. Body bedewed with a cold clammy sweat. Vomiting ceased at 11 P.M. Ordered nutrient enemata and morphia.

3rd. — Vomiting recommenced at 5 A.M., and continued throughout the day. The patient was examined by Dr. Fish, under whose care he was now placed. Dulness over base of left lung in axillary region; vocal fremitus dimi-

nished; shrill tubular note. Dr. Fish pronounced the pain to be pleuritic. Linseed-meal poultices were applied over the back and side, the nutrient enemata were discontinued, and the patient was ordered brandy and milk. Temperature 103°; pulse 120.—10 P.M.: Temperature 100°; pulse 120.

4th. — 9 A.M.: Temperature 100·2°; pulse 99. Delirious part of the night, but obtained some sleep in the early morning. Free from pain. Bowels open.

5th. — 9 A.M.: Temperature 99·2°; pulse 132. No vomiting. Respiration more hurried. Takes ten ounces of brandy.

6th.—Slept well. Decided improvement. Tongue clean. Bowels open; motions solid. Temperature 99·2°. — 8 P.M.: Temperature 100°.

7th.—Physical signs much the same. Takes nourishment freely. Temperature 99·2°.—8 P.M.: Temperature 100·8°.

8th.—Temperature 99·4°; less dulness on percussion; less pain.—8 P.M.: Temperature 100°.

9th.—Temperature 99°; face pinched and dusky; breathing hurried; respiration 26; suffers but little pain.—8 P.M.: Temperature 99·8°.

10th. — Temperature 99·2°; restless and delirious in the night; takes but little nourishment. — 8 P.M.: Temperature 99°; more pain in side; bulging in intercostal spaces; more dulness on percussion; had severe paroxysms of dyspnœa at night.

11th. — Had a restless night; great pain in side; more bulging in intercostal spaces; area of dulness greater. About 8.30 A.M. the patient asked to be raised in bed, when he suddenly fell back asphyxiated.

Necropsy, Feb. 13th, 10 A.M.—Chest: Left pleural cavity contained upwards of a quart of muco-purulent fluid; left lung compressed and flattened, weighed only seven ounces and a half; pieces of it sank in water. Right lung weighed twenty-two ounces and a half, and contained a few tubercles. —Heart healthy.—Abdomen: Spleen and liver healthy; left kidney seven ounces, right one six ounces; they were both examined microscopically by Mr. Augustus Pepper, who pronounced them healthy. The bladder and prostate were healthy; there were two false passages extending into the substance of the gland for a short way, which were lined with a mucous membrane, and were evidently of considerable age. In the urethra the remains of the stricture could be seen, and it was evident that the stone, which was phosphatic, had been formed in the dilated portion of the canal behind the contraction.

Remarks by Mr. TEEVAN.—The patient when quite cured of his local ailment, and about to return home cured, was attacked by pleurisy. Unfortunately the man's constitution had been deteriorated by the fever and ague from which he had suffered whilst in the tropics, so that he was predisposed to catch cold, and formed one of the many victims to the excessively low temperature which prevailed at the time of his illness. Happily, in the present instance, no operation had been performed, so that surgery must be held blameless for the unfortunate termination. When the patient was admitted he was not suffering from retention, and was able to pass urine by the side of the calculus. The case illustrated what could be achieved by apparently so insignificant an instrument as a fine whalebone bougie, which in the present instance had effected the dilatation of the stricture and the expulsion of the stone.

SOMERSET HOSPITAL, CAPE TOWN, CAPE OF GOOD HOPE.

INGUINAL ANEURISM; LIGATURE OF THE RIGHT COMMON ILIAC ARTERY; RECOVERY.

(Under the care of Dr. A. L. CHIAPPINI.)

THE following notes were taken by the late Dr. W. H. Wood:—

W. H——, aged forty, was admitted on January 2nd, suffering from a very large inguinal aneurism, which could be distinctly seen pulsating through his trousers, and forming a prominence on the right side. He was of intemperate habits, but had never had syphilis. He stated that about fifteen months before admission he was engaged loading a vessel with copper ore at night, and that when lifting a particularly heavy bag he felt something give way on his right side, and he immediately had very severe pain in the right groin, and about three hours after this, on putting his hand within his trousers-pocket, he felt a lump, which was not very hard, and about the size of a pigeon's egg. At nine next morning he showed it to a medical man, who ordered him to poultice the swelling, which was now very hard. He lay up and poulticed for nearly a week, when, the pain having diminished, he returned to work, and two months after again showed it to the same gentleman. The tumour was now the size of a hen's egg, and the man noticed for the first time that it pulsated. He was told to continue the poultices. Time passed on, the man being at work on and off; the tumour still increasing and causing great pain down the right leg. About three months before admission the "lump" was, he said, about the size of a "baby's head," and he again showed it to the doctor, who advised him to poultice continually. A few weeks before admission he saw another medical man, who immediately ordered him to the hospital, to which he went by sea.

On examination, an immense pyramidal tumour was seen, pulsating with a strong expanding impulse, occupying the whole of the right iliac region, being raised about five inches above the surface; a tape laid across it measuring just a fraction under twelve inches from edge to edge. The upper limit was level with the crest of the ilium; to the left it approached closely to the pubes, while it was prolonged downwards into the thigh, Poupart's ligament being tightly stretched over its lower portion. The tumour was soft and elastic; at the apex the sac was very thin, and the skin a dusky purple, and it was evident it must soon give way. The right leg was considerably swollen; the temperature was the same in both legs.

On the 8th, or six days after admission, the patch at the apex was larger and thinner, and after consultation it was decided to operate the next day.

On the 9th Dr. A. L. Chiappini, the visiting surgeon, accordingly proceeded to operate, making a semilunar (from the small space at his disposal, almost a semicircular) incision, with its convexity at the furthest about five inches from the umbilicus. The peritoneum, which was not adherent, was pushed back with the intestines, and the common iliac artery exposed (as was expected, there was nothing to be seen of the external iliac artery) and ligatured with thick silk. One end of the ligature was left hanging out, and carbolic dressings were applied to the wound, which was brought together by a few sutures. He was then put to bed, and the leg, previously shrouded in cotton wool, was surrounded with hot sand bags and hot-water bottles. In the evening his pulse was 90; he had not much pain anywhere. Had half a grain of morphia. Had had a good night and passed water freely. Next morning the tongue was clean; pulse 112; temperature of body 99·5°. At 9 P.M. the pulse was 100; temperature 99°. Repeat the sedative draught.

He continued without one bad symptom, not suffering so much from pain and numbness in the leg as before the operation, and having perfect sensation in the leg. The tumour very rapidly decreased, at one time, however, threatening to suppurate, and on the 29th day after the operation the ligature came away. The man is now in perfect health, and working as a navvy on the railway works.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Cholecystotomy for Dropsy of Gall-bladder due to the Impaction of Gall-stone.—Gastrotomy in Extra-uterine Pregnancy.

THE ordinary meeting of this Society was held on the 11th inst.; Mr. Erichsen, F.R.S., President, in the chair. Two papers, by Mr. Lawson Tait, were read, both dealing with abdominal surgery, and interesting not only for their intrinsic importance, but for the discussion raised on the side issue of the value of antiseptic measures in peritoneal operations, Mr. Spencer Wells, Mr. K. Thornton, Mr. Holmes, and others joining in the debate.

Mr. GAY exhibited the specimen of Cancer of the Rectum, removed by excision of three inches of the gut, upon which he had read a paper last session. The patient had since died from extension of the disease to the uterus. He also showed a similar specimen, forwarded by Mr. Lowson, of Hudders-

field, where the stricture was seated two inches from the anus, and the case had done well.

A paper was read on a case of Cholecystotomy performed for Dropsy of the Gall-bladder, due to the Impaction of a Gall-stone, by Mr. LAWSON TAIT. The author referred to the success attending ovariotomy as leading to the adoption of abdominal section for other pelvic and abdominal tumours likely to affect seriously the life of the patient, unless of a cancerous nature. Dr. Handfield Jones had the merit of first suggesting the extension of it, particularly to cases of threatened death from gall-stone impaction. Dr. Marion Sims was the first to follow out the plan, but unsuccessfully, and the present case was the first successful one. The patient had been married eighteen years, had borne six children, and menstruation was normal and health good till the summer of 1878. At that time she had spasmodic pains in the right side, aggravated by walking and lifting slight weights. A swelling, noticed in September, slowly increased, and during last winter pain became more intense, and she presented a cachectic appearance, suffering from incessant headache, sickness, and obstinate constipation. The seat of pain was over the right kidney, where there was a heart-shaped tumour, firm and elastic, without fluctuation, tender to the touch, and movable towards each side. The urine gave only negative results. At a consultation with the author's colleague, Dr. Edginton, no decided diagnosis was attempted, and the opening of the abdomen was agreed upon, which was performed on the 23rd of August, in the middle line, to the extent of four inches. The tumour was found to be a distended gall-bladder, containing a white starchy-looking fluid, and two large gall-stones, one lying loose, and the other impacted in the entrance of the duct, and adherent to the mucous surface. The latter was removed after a tedious and very difficult operation (fully described in the paper). The stone and fragments weighed 6·11 grammes. The wound in the gall-bladder was stitched to the upper end of the wound in the abdominal walls by continuous sutures, leaving the aperture into the bladder quite open, and closing the rest of the abdominal opening in the usual way. The operation was performed antiseptically under ether. The patient rallied completely in a few hours, and the dressings of the wound were found stained with healthy bile. The flow of bile from the wound continued till Sept. 3rd. The wound was completely healed on Sept. 9th, when the patient began to take solid food, up to that time the diet having been restricted to milk and beef-tea. On the 30th she went home quite restored to health. A temperature chart indicated the evenness and rapidity of the recovery. An entire absence of symptoms of gall-stone rendered an accurate diagnosis impossible, but this was of less importance as late improvements in abdominal surgery made an early exploratory incision for ascertaining the true nature of the disease feasible. The author, in stating that he always used rigid antiseptic precautions in his abdominal sections, expressed some doubts as to his success being attributable in any way to them.—Dr. COUPLAND pointed out that cases (such as that related) of impacted calculus in the neck of the gall-bladder, with consequent dropsy of the viscus, belonged to a different category from those of calculi obstructing the common duct. In the former class no jaundice occurred, for the common duct was not occluded, and often no symptoms denoted the condition, which he had more than once met with as a post-mortem discovery. The important point was whether surgical interference was warranted in the second and graver class of cases—impaction in the common duct; and whether, if such interference were justifiable, it would have as reasonable a chance of success as in the former class. *A priori*, the risk should be much greater, from the difficulty of extraction owing to the smaller size of the gall-bladder, and the greater likelihood of extravasation of bile into the peritoneum.—Mr. HULKE said that the credit of first advocating such a procedure in this country was due to Dr. Handfield Jones; but in 1743 Petit published an admirable memoir on this very subject, and with the same intent. In that memoir Petit draws a parallel between disorders of the gall-bladder and those of the urinary bladder, and urges the feasibility of the extraction of biliary calculi. Mr. Lawson Tait's case was a similar one to Petit's—one where the obstructing calculus was lodged in the cystic duct. In such cases the gall-bladder becomes converted into a mucous cyst; it gets filled with secretion from its lining membrane. Many specimens illustrative of this condition had been shown at the Pathological Society—a condition far different to deal with than that where the viscus is distended with bile.—Mr. KNOWSLEY THORNTON asked the author to explain his statement with regard to the antiseptic method, for, in spite of the success he had with it, he did not seem to attribute it to the use of antiseptics.—Mr. LAWSON TAIT explained that his view was that the success was not due to the antiseptic method *per se*.—Mr. THORNTON observed that the fact still remained that the increasing success obtained by Mr. Tait followed his adoption of the method.—Mr. H. MORRIS said that in the case published by Dr. Marion Sims (which, although primarily successful, afterwards proved fatal) the success was attributed to the use of the antiseptic method, and Dr. Sims adds that the step taken would have been unjustifiable without the use of such precautions. But at the Bath meeting of the British Medical Association, before Dr. Sims's case was published, Mr. G. Brown related a case in which the operation lasted for eighty minutes, and where, although adhesions were broken down, the gall-bladder was not directly opened. Soon, however, fluid began to ooze out, and the patient recovered, Mr. Brown justly remarking that had his operation failed it would have been attributed to his non-employment of antiseptics. Mr. Morris confirmed Mr. Hulke's remark as to the advocacy of the operation being made before Dr. H. Jones urged it as a measure to force down calculi through the duct into the duodenum. In 1859 Dr. Thudichum suggested the same operation at a meeting of the medical society under the presidency of Mr. Hilton, who thought the procedure justifiable, and who referred to a case where such an operation had been done. Mr. Morris asked whether much hæmorrhage followed the incision into the abdominal wall in Mr. Tait's case; for in Sims's case and one by Keene of Philadelphia, where the incision was made away from the median line and directly over the tumour, there was considerable hæmorrhage. He also asked whether in the progress of the case the contracting gall-bladder produced much traction on the abdominal wall.—Mr. SPENCER WELLS said that several years ago he was consulted about the removal of gall-stones in a case where the operation was discountenanced, and, as it proved, correctly, because there was thought to be cancer present. At that time he considered that an opening by potassa fusa caustic would be preferable to the knife, and he should still, if such a case presented itself, prefer to adopt the former plan. He congratulated Mr. Tait on the issue of his case, and asked how long the bile continued to flow from the wound.—Mr. BARKER asked whether, as a rule, impaction of a stone in the neck of the gall-bladder was followed by jaundice. In a case he had brought before the Pathological Society where a large stone gradually escaped into the ileum and there produced fatal obstruction, there was no trace of jaundice at any time. The late Dr. Murchison had told him that it was not usual to have jaundice when the calculus was lodged in the cystic duct.—Mr. LAWSON TAIT could not say whether jaundice occurred in such cases. He had always thought the calculi were formed in the gall-bladder and thence passed down the ducts. Mr. Hulke's remarks showed how careful one should be in bibliographical research; and he must confess that he had gathered his knowledge of the history of the operation from Dr. Sims's paper, where the priority of the idea is given to Dr. H. Jones. There was no amount of hæmorrhage in the operation, and he attributed that to his following the rule of making all abdominal incisions in the linea alba. Only the day before he was compelled to depart from this rule and to make a small incision to the side of the median line in order to reach a large hydatid cyst, and the bleeding from the small wound was much greater than that from a long incision he had also made in the median line. In his case no traction was produced by the shrinking gall-bladder. The flow of bile from the wound continued as long as this was open—that is, as long as the antiseptic dressings were left applied. On the question of antiseptic surgery in general he said that no one had yet given anything more than his *impression* of its good results; absolute *proof* was still wanting. He himself followed the practice, not because it was proved to be the cause of success, but that he might not reproach himself with leaving any stone

unturned for the good of his patients. In a recent paper in THE LANCET Mr. Thornton had said that he had never lost a case of uncomplicated ovariotomy in which he had used the antiseptic system. He also had never lost an uncomplicated case but one, and that was one in which antiseptics were rigidly employed. In that case thymol was the antiseptic used, and the patient never seemed to rally from its effects. The number of cases which he had now operated on antiseptically, in private and in hospital practice, amounted to nearly 100. The success of those done in private practice could not be surpassed, but the hospital cases were at first not so successful. He attributed this to the insanitary condition of the hospital, a condition which compelled him to remove the cases therefrom to a healthier locality. Since then the committee of the hospital had built a cottage hospital in the country, with every possible sanitary precaution, and there, out of some eighty or ninety cases of ovariotomy, only two had died, one being the thymol case just mentioned, and the other where the patient died suddenly from heart disease the day after operation. Should this improvement be wholly laid to the credit of antiseptics? In private practice his success had been gradually increasing, just as that of Dr. Keith and Mr. Wells, and he thought much of this progressive increase in success was due to increased personal skill and precaution. Keith's statistics even showed a slight fractional balance against antiseptics. He awaited statements from these gentlemen to prove that their increased successes were due to the adoption of antiseptic measures. In his paper he had said the question was still *sub judice*, and he preferred to remain sceptical in the true sense, willing to admit the value of Listerism if the proof of its value could be established.

Another paper by Mr. LAWSON TAIT was read, entitled "A Second Successful Case of Gastrotomy in Extra-uterine Pregnancy." This second case was intended particularly to emphasise the propriety of operating by median abdominal section, and the necessity of leaving the placenta untouched, both lessons having been taught also in a third case previously referred to, in which the section was vaginal, and the placenta had been removed, which facts had undoubtedly been the cause of a fatal issue. The patient in this case was a worn-down anæmic married woman, aged thirty, seen for the first time on March 1st last. Married three years. She had no children, and her menstrual periods had been perfectly regular till September, 1878, when they ceased, the abdomen enlarged, and she thought herself pregnant. There was a large tumour reaching above the umbilicus, fixed in the pelvis, and of uniform solidity. The uterus was of normal size, bent backwards, and the tumour was adherent to the anterior wall, and slightly movable. It was diagnosed as hæmatocele. The tumour subsequently increased to double its original size, due apparently to the sudden formation of a cyst on its upper surface, in which some solid fluctuation was perceptible. An incision was made into the abdomen, with antiseptic precautions, on April 30th, and a cyst full of fresh blood-clot opened; this was explored, but nothing throwing light on the case found, and the wound was closed. She rallied completely from the operation, but the pain was still intense, and the opiates were increased. On May 2nd red serous fluid began to ooze from the wound, and it was clear that the cyst cavity was suppurating. On the 6th and 7th several large clots came from the wound, and the cavity was cautiously syringed out with an antiseptic solution of phenol twice daily. On May the 16th a piece of bone was removed, which proved to be a fœtal skull-bone of the third or fourth month, and an entire fœtus was drawn out through a hole in the original tumour which led into the cyst previously opened. The fœtus, which was not more than three months old, was macerated and rotten. On the 17th eight or nine inches of the umbilical cord came away. On the 18th the patient was anæmic and exhausted, and for the next eight days extremely ill, but began to rally on the 26th, and on the 29th a large piece of placenta was extruded. The discharge then ceased, she began to take her food well, and the wound became healthy, and on June 10th had rapidly contracted. The diagnosis was approximately correct in so far that the lesion was one of the forms of hæmatocele, and the abdominal section was accidentally the means of saving the patient. The author made it a rule to open the abdomen in all doubtful cases—as to the nature of the tumour—where there seemed a possibility of benefit from operative proceedings, and in between fifty and sixty cases he, as in the one narrated, had had no reason to regret the proceeding. A temperature chart was attached to the paper.—Mr. DORAN drew attention to the significance of symptoms of repeated attacks of pelvic hæmatocele as pointing to extra-uterine fœtation. About eighteen months ago a lady, the mother of two or three children, applied to Dr. Connolly, of Wood-green, with severe pain in the right iliac fossa. Dr. Connolly suspected extra-uterine gestation, and six months later, on a recurrence of the symptoms, Mr. Spencer Wells was consulted. The diagnosis lay between extra-uterine fœtation and pelvic hæmatocele, and an exploratory operation was considered, but not done, and six weeks afterwards the patient died suddenly in a third attack of hæmatocele. Mr. Doran made an examination, and found a recent extravasation of blood in Douglas's pouch; beneath that a layer of partially decolorised clot, and beneath that again another layer of perfectly decolorised fibrin overlying the peritoneum, thus denoting the attacks of hæmatocele. The case was strikingly analogous to Mr. Tait's, and in view of the great mortality following an extra-uterine gestation he would suggest the propriety of exploration (under antiseptics) in cases of recurrent pelvic hæmatocele. A fœtus of about the sixth week was found in the Fallopian tube, and he showed the specimen at the last session of the Obstetrical Society. Speaking of antiseptic treatment, Mr. Doran said that since it had come into vogue in ovariotomies he had been struck with the clean condition of the peritoneum in fatal cases, and believed that the causes of mortality after this operation were independent of septic conditions.—Dr. HEYWOOD SMITH asked the author for an explanation of the hæmatocele above the fœtal tumour, and why he had not opened the second swelling. He believed it was now an established fact that the placenta should not be removed in these cases.—Mr. KNOWSLEY THORNTON related a case of supposed ovarian tumour, which turned out to be an extra-uterine gestation. The patient was extremely emaciated, and presented a large sloughy tumour in the abdomen, with a hard mass in Douglas's pouch. He thought the case one of ovarian disease, with much matting of intestines. Her condition precluded exploration, and in a few days after admission she died with symptoms resembling those of perforation of intestine. The post-mortem showed, however, an extra-uterine fœtation. (The fœtus, a monster, is preserved in the College of Surgeons Museum.) In this case also there had been repeated attacks of hæmatocele, the evidences of which were found after death, which was directly due to a final attack of hæmorrhage. No doubt the proper course in that case would have been an early exploratory incision.—Mr. SPENCER WELLS said that in Dr. Connolly's case the question of exploratory incision was entertained, but it was not done on account of the resistance of the patient's relatives. Since then he had seen a similar case with Dr. Coates, of Salisbury. The case was marked by the same recurrence of signs of pelvic hæmatocele, and again exploration was advised, but negatived in deference to the friends' wishes. He doubted whether in the present state of knowledge a surgeon would be right in positively urging such an operation, although the protection afforded by antiseptics would strengthen him in making the request. Mr. Tait had asked for the result of his experience of ovariotomy before and after the adoption of antiseptics. Since he had fully adopted them he had eighty-one cases, with six deaths; whereas in the series of cases immediately preceding its adoption he had had a mortality of about 10 per cent. (seven deaths in seventy-four cases.) He did not think so marked an advance could be simply attributed to increased experience and care, for there had been a steady diminution in mortality year by year; before antiseptics it had not been so marked as this. As soon as he had completed a hundred cases on the antiseptic method he would compare the results with the hundred before it was adopted. So far as he had gone he did believe that antiseptics were a great gain, and that he could more willingly urge patients to submit to the operation in view of the security they gave.—Dr. MATTHEWS DUNCAN, since he came to London, had had three cases of extra-uterine gestation. In two the diagnosis was certain; the fœtal heart was audible, and in both the fœtus died before it had reached the term of viability, so that he did not consider that operative interference was justified. Both the patients were now well. The third patient was now under his care at St. Bartholomew's Hospital. She had had an attack of hæmatocele which burst into the rectum; but she was apparently improving, and he saw no reason to interfere in any way whatever.—Mr. HOLMES remarked that the more one hears of the an-

tiseptic method the more does the evidence in its favour seem to be a question of "impressions," as Mr. Tait had said. He did not think Mr. Wells could seriously mean that a reduction of mortality from 9·8 per cent. (7 out of 74) to 7·4 per cent. (6 out of 81) is a matter which could prove the point. The original statement of the antiseptic system was that of a physical theory, but it had come now to be a question of surgical experience, and they had still to wait for a physical demonstration of its proved efficacy. Mr. Lister had been over and over again appealed to to give such a physical proof, but he was silent, and it was clear that such a proof did not exist. That the method was a successful one, no one could doubt, but this did not mean that other methods could not be and were not equally successful. This, indeed, had been shown in some hospitals, where different surgeons had worked on different plans with equally good results. The one important particular which favoured the success of antiseptic surgery was this, that it involves the observation of many minute precautions on the part of the surgeon, prevents the interference of others in the treatment of the case, and isolates wounds from contamination from without.—Mr. SPENCER WELLS said that he was quite serious in stating that a mortality of 6 out of 80 rather than 7 out of 70 was a considerable gain.—Mr. RIVINGTON said that in the Medico-Chirurgical Transactions for 1860 (vol. xliv.), the late Mr. John Adams had recorded an instance of successful removal of a fœtus in a case of extra-uterine gestation, where the placenta was left behind, a procedure to which Mr. Adams attributed the success of the case. The same author also mentions a case where the violent removal of the placenta was followed by fatal results.—Mr. LAWSON TAIT said that the peritoneum, which formed the roof of the cyst, was not opened. The rule that the placenta should not be removed had been laid down by the late M. Kœberlé. In spite of what Mr. Wells had stated, he still shared largely the views expressed by Mr. Holmes regarding Listerism, the great value of which was its enforcement of minute attention to details, leaving everything to be done by the surgeon himself, and he illustrated this by an instance in his own personal experience. He believed this would be attended with as good result whether carbolic acid were used or not. He thought Dr. Duncan's patients were still in great risk, the condition still remaining, for cases of spontaneous recovery by discharge of fœtal remains per rectum were very few. He had only known one such case, whereas he was aware of ten or eleven fatal cases. He would say that as a rule operative interference should be had recourse to as soon as the diagnosis of extra-uterine pregnancy had been made, and if the fœtus were living it would not be wise to wait until it had reached the age of viability.

The Society then adjourned.

MEDICAL SOCIETY OF LONDON.

The Treatment of Lateral Curvature of the Spine.—Osteotomy of Femur in Anchylosis of Hip.

AT the meeting on the 10th inst., Dr. Cockle, President, in the chair,

Mr. FISHER read a paper "On Lateral Curvature of the Spine and the Jacket Treatment." Speaking only of that form of lateral curvature which occurs during adolescence, he first alluded to Sayre's theory, which ascribes the origin of the deformity to abnormal muscular contraction—an old doctrine long since disproved. The statement by the same authority that rotation of the dorsal vertebræ results from the action of the serratus magnus was disputed, because that muscle cannot exert its power unless the scapula is fixed by other muscles which arise from the vertebræ themselves. Lateral curvature originates in degeneration of the ligaments and intervertebral discs, by which the flexibility of the spine is increased and its elasticity decreased. Rotation was attributed to the fact that the anterior portion of the column is more movable and less supported than the posterior. The treatment differed in the various stages of the deformity. In the first stage, when the curvature is not confirmed, attention to general health, gymnastic exercises, and the observance of such measures as shall remove the exciting causes of curvature, fulfil all the indications for treatment. In the second stage, when curvature is decidedly established, Sayre's method of treatment was objected to; because, if the plaster jacket is a perfectly retentive splint, the use of daily self-suspension must be ineffectual, the spine being rendered immovable by the splint. If, on the other hand, extension of the spine is obtained, then the jacket is a bad support, because it does not maintain the improvement which results from suspension, for the spine sinks back to that condition in which it was when the jacket was first applied. In preference to this method the author advocated gymnastic exercises, regulated according to the nature of the case, the employment of direct pressure at the seats of curvature whilst the patient is in the horizontal position with the spine extended, and the use of a properly constructed spinal instrument. Dr. Sayre's criticisms applied only to the misuse of this form of support. Like all other pieces of surgical mechanism, the spinal instrument should simply be used as a support, capable of being accurately adjusted to the deformity, and thus of maintaining the improved condition gained by the more active measures of treatment previously described. Although not denying that the jacket treatment was able to afford the patient considerable relief, he was of opinion that this is the limit of its powers, and that it is deficient as a curative agent. In the third stage of curvature, when the distortion was confirmed and past reduction, the poroplastic jacket was recommended as being the most convenient form of support to use. (The instruments recommended for treatment were manufactured by Mr. Ernst.)—Mr. G. C. COLES considered extension was necessary to overcome the twist in the spine, and that a rigid jacket should be used to keep up the extension. He had found the poroplastic jacket useless, but Sayre's method had answered admirably.—Mr. BRYANT agreed with the author that in those cases where mechanical support is required, the poroplastic jacket, or steel supports, are preferable to Sayre's apparatus, because it was necessary for the patient to take moderate exercise, and have friction of the part, which would be impossible in an immovable jacket. But in three-fourths of the cases no mechanical aid was required; although no definite rule could be given as a guide to those which do require it. In severe and acute cases a firm and equal mechanical support prevented the patient from getting worse, and allowed time for constitutional remedies to take effect. The poroplastic jacket was better for children; it was cleaner than Sayre's jacket, but more difficult to apply. He agreed with the author, that many of the steel instruments were either too heavy to be worn with comfort, or too light to be of any use as a support.—Mr. R. DAVY thought that the instrument most readily applied should be the one to be most generally adopted. The variety of apparatus required to carry out Sayre's plan, stood in the way of its general adoption. He also thought that a majority of cases needed no mechanical support. In applying Sayre's jacket he (Mr. Davy) places the patient in a canvas hammock in front of a fire, and then works part of the hammock into the front wall of the jacket; and when dry the uncombined parts of the hammock are cut off, and the child is then free to run about.—Dr. H. HALL had seen Mr. Davy's method applied and thought it most convenient, the only drawback being the absence of extension during the application.—Dr. WYNN WILLIAMS had discarded steel instruments and the poroplastic jacket in favour of Sayre's method; for which he did not think severe extension was necessary.—Mr. REEVES thought Sayre's apparatus to be worse than useless in any form of lateral curvature. In such cases, when apparatus is required, steel instruments or the poroplastic jacket are to be preferred. There are cases which no instrument would relieve, and he had known patients get worse whilst wearing Sayre's apparatus.—Mr. FISHER replied, agreeing that in many cases of lateral curvature no support is necessary. In the second stage it was of use, but in the third stage no form of support at present known was of any avail. No exercise was possible with Sayre's jacket. He approved of Mr. Davy's hammock apparatus.

Mr. RICHARD DAVY read a paper on Osteotomy of the Femur to rectify distortion following Morbus Coxæ. The distortion implies osseous anchylosis of the ilio-femoral joint at an incorrect angle, with much exaggeration of bone. The disease is passive. The operation consists of so far weakening the femur by the use of the chisel as to admit of easy fracture at a point below the bony anchylosis. The patient is laid straight-backed on the table, and the valvular opening is

BEST COPY AVAILABLE

made on the posterior aspect of the thigh. Mr. Davy insisted that this position gave the surgeon plenty of space, the best counter-resistance to the stroke of the chisel, a dependent opening, and one calculated to prevent the admission of air. The femur, having been cut through, is brought down to the straight, the wound is dressed with collodion, and sand-bags are applied to the leg during bony union. The results were most gratifying. The use of crutches was abolished, and the patient walked upright with the aid of a high boot. Twelve cases of the late Mr. Maunder's were narrated, and five cases by Mr. Richard Davy. The paper was illustrated with photographs, and instruments and specimens were shown. One boy walked round the room on whom Mr. Davy had performed left femoral osteotomy and a right Syme's amputation at the same sitting, the boy not knowing till a week afterwards that his femur had been chiselled. Dr. Davy considered the operation to be equally as good for the patient as it was interesting to the surgeon.—Mr. BRYANT thought the operation most valuable. Mr. W. Adams was the first to bring subcutaneous osteotomy before the profession. Wherever the neck of the femur was free from disease it should be divided in preference to the shaft.—Mr. REEVES also thought the operation a most useful one. He was aware that there had been two fatal cases. If extension were applied after fracture no shortening would follow, and in his experience suppuration occurs in very few cases.—Mr. DAVY replied, and the meeting adjourned.

ARMY MEDICAL DEPARTMENT.

SCHEDULE OF QUALIFICATIONS

Necessary for Candidates desirous of obtaining Commissions in the Army Medical Department, with the Conditions of Service.

1. Every candidate for a commission in the Army Medical Department must be twenty-one years of age and not over twenty-eight years at the date of commencement of the competitive examination. He must produce an extract from the register of his birth, or, in default, a declaration, made before a magistrate, by one of his parents or guardians, giving his exact age. He must also produce a recommendation from some person of standing in society—not a member of his own family—to the effect that he is of regular and steady habits, and likely in *every* respect to prove creditable to the department if a commission be granted; and also a certificate of moral character from the parochial clergyman, if possible.

2. The candidate must sign a declaration upon honour that both his parents are of unmixed European blood, and that he labours under no mental or constitutional disease, nor has any hereditary tendency thereto, nor any imperfection or disability that can interfere with the efficient discharge of the duties of a medical officer in any climate; also that he does not hold, and has never held, any commission or appointment in the public services. His physical fitness will be determined by a board of medical officers, who are required to certify that the candidate's vision is sufficiently good to enable him to perform any surgical operation without the aid of glasses. A moderate degree of myopia will not be considered a disqualification, provided it does not necessitate the use of glasses during the performance of operations, and that no organic disease of the eyes exists. The board must also certify that he is free from organic or other disease, and from constitutional weakness, or tendency thereto, or other disability of any kind likely to unfit him for military service in any climate.

3. Certificates of age, registration of diplomas, &c., and of character, must accompany the declaration when signed and returned.

4. Candidates will be examined by the Examining Board in the following compulsory subjects, and the highest number of marks attainable will be distributed as follows:—(*a*) Anatomy and Physiology, 1000; (*b*) Surgery, 1000; (*c*) Medicine, including Therapeutics, the Diseases of Women and Children, 1000; (*d*) Chemistry and Pharmacy, and a practical knowledge of drugs, 100.—(N.B. The examination in medicine and surgery will be in part practical, and will include operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bedside.) The eligibility of each candidate for the Army Medical Service will be determined by the result of examination in these subjects only. Examinations will also be held in the following voluntary subjects, for which the maximum number of marks will be—French and German (150 each), 300; Natural Sciences, 300. The knowledge of modern languages being considered of great importance, all intending competitors are urged to qualify in French and German. The natural sciences will include comparative anatomy, zoology, natural philosophy, physical geography, and botany, with special reference to materia medica. The number of marks gained in both the voluntary subjects will be added to the total number of marks obtained by those who shall have been found qualified for admission, and whose position on the list of successful competitors will thus be improved in proportion to their knowledge of modern languages and natural sciences.

5. After passing this examination, every qualified candidate will be required to attend one course of practical instruction at the Army Medical School as a probationer on—(1) Hygiene; (2) Clinical and Military Medicine; (3) Clinical and Military Surgery; (4) Pathology of Diseases and Injuries incident to Military Service.

6. In future service in the Army Medical Department will not be limited to ten years, but executive medical officers will be placed on the retired list at fifty-five, and administrative officers at sixty years of age.

7. Candidates must possess two diplomas or licences, one to practise medicine and the other surgery, and be registered under the Medical Act in force in the United Kingdom at the time of their appointment.

8. The terms of the new Warrant for the department are not finally settled, but the rates of pay and retired pay, stated below, have been sanctioned.

Full Pay.

	Daily.
Surgeon-General	£2 15 0
Deputy Surgeon-General	2 0 0
Brigade Surgeon	1 10 0
After 5 years in the rank	1 13 0
Surgeon-Major	1 0 0
After 15 years' service	1 2 6
After 20 years' service	1 5 0
After 25 years' service	1 7 6
	Yearly.
Surgeon	£200
After 5 years' service	£250
	Daily.
After 10 years' service	0 15 0
Surgeon on probation	0 8 0

This scale does not include allowances for lodging, fuel and light, and for servant.

Gratuity and Retired Pay.

	Gratuity.
Surgeon and Surgeon-Major, after 10 years' service	£1250
Do. ,, 15 years' service	1800
Do. ,, 18 years' service	2500
	Daily.
Surgeon-Major, after 20 years' service	£1 0 0
Do. 25 years' service	1 2 6
Do. 30 years' service	1 5 0
Brigade Surgeon after 20 years' service	1 7 6
Do. 30 years' service	1 10 0
Deputy Surgeon-General	1 15 0
Surgeon-General	2 0 0

Temporary Half-pay.

	Daily.
A Medical Officer under 5 years' service	£0 6 0
Do. after 5 years' service	0 8 0
Do. ,, 10 years' service	0 10 0
Do. ,, 15 years' service	0 13 6

Relative Rank.

Surgeon-General	as Major-General.
Deputy Surgeon-General	as Colonel.
Brigade-Surgeon Surgeon-Major of 20 years' service	as Lt.-Colonel.
Surg.-Major of less than 20 years' service	as Major.
Surgeon	as Captain.
Surgeon on probation	as Lieutenant.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 15, 1879.

In another column we print the address delivered before the Midland Medical Society by Sir WILLIAM JENNER, on the Treatment of Typhoid Fever. This is a contribution of more than ordinary importance to what may be designated the literature of practical medicine. It will prove of high value to the busy men engaged in the routine work of the profession, and should on no account be missed by the least leisurely of practitioners.

There are two several, and in a sense separable, aspects of Sir WILLIAM JENNER'S paper. Regarded from the clinical standpoint, it may be taken as throwing new and interesting light on certain of the vexed questions in relation to the symptomatology of the disease. For example, those who have seen much of typhoid fever, and studied it at close quarters, cannot fail to have been struck by the remarkable evidence of depression presented by not a few cases at the outset, and characterising their early stage. Occasionally this seeming "exhaustion" is so strongly marked that the whole type of the fever appears to be changed, and doubt is thrown on the diagnosis, or the malady is supposed to be complicated, and the patient fore-doomed. The effects produced by personal mismanagement during the accession of the disease are, for the first time, so far as we remember, clearly and forcibly pointed out in the address before us; and due stress is laid on the influence exhaustion of the physical and nervous forces, by travelling or measures expressly taken to "work off" a supposed cold, exerts on the malady. The value of the remarks offered on this point is great, both to the clinical student and to the practitioner. For one, they will explain a difficulty, to the other they may act as a corrective of mistaken views with respect to the expediency of removing patients, even possibly suffering from typhoid, during the incidence of the disease. Another matter of great practical interest is the direct causation of intestinal disturbance by the unwise or excessive use of milk as an article of diet. The want of well-defined relations between the diarrhœa of the fever and other typhoid symptoms has long been a matter of considerable perplexity to students and practitioners. The familiar indications of the local disease in the intestines have not explained the diarrhœa, and the diet has been supposed to be appropriate. When it is remembered, as Sir WILLIAM JENNER points out, that each pint of milk contains as much solid matter as a full-sized mutton-chop, little difficulty will be found in understanding whence a degree of intestinal disturbance wholly disproportionate to the general disease is likely to arise. The exposure of evils resulting from the recourse to opium or other sedatives to procure sleep in the early stage of fever, and the suggestion that "a tepid bath or sponging the surface will often at once induce sleep, and no drug be required," are of more moment than may at first sight appear. On the subject of stimulants Sir WILLIAM JENNER speaks with the force of an acute observer, as well as an experienced practitioner, and the profession will be grateful for the clear and common-sense counsel he gives. Alcohol is a nerve-stimulant, and as such must be employed in fever—not to give strength, but to call it forth; and where the symptoms point to deficiency in energy alcohol may be employed with advantage, rarely in the earlier weeks of the fever, and scarcely ever, in the opinion of Sir WILLIAM JENNER, in quantities exceeding twelve ounces of brandy in the twenty-four hours. The best results are, he believes, obtained with four, six, or eight ounces; and the rule this great authority has laid down for his own guidance during the last thirty years is to abstain from using alcohol where there is *doubt*, and to give the smaller of two reasonable doses, rather than exhibit the stimulant in excess. The principles indicated may seem to be familiar, but the conclusions arrived at are weighty and of sterling value to general practitioners, by whom Sir WILLIAM JENNER'S lecture will be especially prized.

The more scientific features of the address are not less practical in their bearing on treatment than the directly clinical. The paralytic effect of a small but deep sloughing of the patches in the intestine, and the incidental production of tremor as a general symptom, are points of great interest, not so much on account of any novelty of observation, as the manner in which the two effects are correlated. Another point of considerable interest on which Sir WILLIAM JENNER touches is the curious fact that headache does not coexist with delirium, but ceases when the delirium begins. "If the delirious patient complains spontaneously of headache, then we should doubt the accuracy of our diagnosis; or if that is beyond question, then we must conclude that there is present that infinitely rare complication of typhoid fever, intracranial inflammation." This well-marked peculiarity to which Sir WILLIAM JENNER alludes has been most unaccountably overlooked by observers, as also another peculiarity which we may venture to mention in the same connexion—namely, that one of the earliest subjective indications of recovery from the state of delirium is that the mental images present to the mind of the patient no longer move before him or advance forwards as at the outset of the disease, but he seems to float or be carried past fixed objects. Sir WILLIAM JENNER thinks delirium is one of the symptoms of fever "which are influenced for good by alcohol." It would be interesting to ascertain whether it is in the rise or during the subsidence of the mental disturbance the stimulant proves most useful. In the absence of any authoritative statement on the point, we conclude that it will be found to be the latter end of delirium—in which the exhaustion of energy produces the "feeling" of being borne along helplessly in the presence of objects rather than that in which the mental "surroundings" are themselves aggressive,—alcohol is of the greatest value. On the subject of temperature, the observations made by Sir WILLIAM JENNER are pregnant with suggestive facts. He summarises the main points thus: "In the progress of typhoid fever local inflammations cause more or less permanent elevation of temperature; blood infection rapid, and sometimes temporary, *always varying* [the italics are ours] elevations of temperature; nerve-disturbances rapid, and temporary elevation of temperature." Upon the striking effect of mental emotion on temperature suddenly adding three or four degrees to the

maximum, stress is opportunely thrown. This is a matter—the mental state of the patient—on which practitioners are apt to bestow scant attention with untoward results.

We have not space to instance more than a few of the salient points in the address, to which we would draw special attention. It is, as Sir WILLIAM JENNER explains, the first and only formal statement he has made of his views on the "treatment" of typhoid, and as these are the views of the greatest living authority on typhoid in this country, they will be esteemed by the profession, and cannot fail to prove as useful as they are practical and sound.

AN important step has at last been taken by the War Office to obtain candidates for the Army Medical Department. The usual advertisement has been issued of an examination, to commence on Dec. 8th, for admission into the service. The long-promised Warrant has not yet been published, but in the schedule of qualifications sent to intending candidates the rates of pay and retired pay which have been sanctioned by the Treasury are announced. It is stated in the schedule that "the terms of the new Warrant for the Department are not finally settled." This, we presume, refers to the question of allowances for lodging, servants, and forage, as it is understood that all the other points were settled some time ago between the War Office and Horse Guards. We publish the schedule to-day for the information of those who may desire to know the conditions so far as they are yet promulgated. They correspond very closely with the recommendations made by Lord CRANBROOK'S Committee. The limitation of service to ten years has been abolished, and the age at which candidates are to be eligible has been fixed at from twenty-one to twenty-eight, thus reverting to the limits in force before the ill-judged Warrant of 1876. The invidious distinction of surgeon-majors of twenty years' service having the relative grade of lieutenant-colonel but *junior* of that rank, has been cancelled, and their position will be determined by the date of completing twenty years' service. The scale of pay and retired pay announced is that recommended by the Committee, with the single exception of the pay of surgeon-general, which is fixed at £2 15*s.* instead of £3 per diem. To this difference we can offer no objection. When the report of the Committee was published, we pointed out that the proposed increase in the pay of the surgeon-general was out of all proportion to that recommended for the other ranks. The authorities appear to have taken the same view, and, while making a liberal addition, have avoided the appearance of an unfair partiality for the highest grade. The new rank of brigade-surgeon recommended by the Committee appears in the scale of pay, so that we presume its introduction into the service has been conceded. The declaration to be made by candidates, the conditions of examination, the compulsory and voluntary subjects, and the maximum number of marks which may be gained for each, continue the same as at previous competitions.

So far as the measures sanctioned by Government for the amelioration of the Army Medical Department have been made known, they appear to have been conceived in a liberal spirit, and to be likely to secure an adequate supply of candidates for commissions and to induce a more satisfactory feeling among the officers already in the service. Much, however, will depend upon the manner in which the numerous questions still under consideration, or upon which at least the decisions have not been announced, are settled; for, as we have repeatedly stated, it is not a question of money alone, but also of status, of an equitable share in the honours and distinctions conferred, and of an honourable adherence on the part of the military authorities to the conditions of service under which officers enter the Department. From the course adopted up to the present time we entertain strong hopes that the Warrant will prove in other respects equally satisfactory; but we would impress upon the War Office the necessity for promulgating it without delay. It is of great importance that this should be done, if possible, before the examination for admission into the department takes place, as candidates will thus be in possession of full details of the conditions under which they enter it, and all excuse be removed for any subsequent complaint of unexpected or unacceptable terms. It is essential to the satisfactory working of the service that there should be a clear understanding of the duties and responsibilities of Government on the one hand and of the officers on the other, and this can only be attained by the promulgation of the Royal Warrant. Till then we reserve all further opinion upon the eligibility of the Department as an opening for our young professional brethren.

SIR JOSEPH FAYRER'S inaugural address on taking the chair as President of the Epidemiological Society on the 5th inst. was of exceptional interest. It is of good augury for the future of epidemiological work that he should fill that chair, and his presence there, in succession to Surgeon-General JOHN MURRAY, the Nestor of the Anglo-Indian Medical Service, betrays a desire on the part of English epidemiologists to do honour to their co-workers in India, which is as honourable to them as it must prove conducive to a better understanding upon certain epidemiological subjects regarding which considerable discussion has of late prevailed. As for these subjects, we are doubtful whether too much may not have been made of differences, and too little of the general agreements between English and Indian workers; and perhaps Sir JOSEPH FAYRER'S own address was not free from a tendency to give undue prominence to points on which certain Indian experiences and English experience generally are not yet seen in accord. We could almost have wished that Sir JOSEPH FAYRER had devoted himself in the main to the part which Indian observers had played in the promotion of epidemiology from the latter years of the preceding century to the present time. It is to be feared that the roll of distinguished names which he noted, beginning with JAMESON and ending with PLANCK, will not convey to the younger generation of medical men in this country an adequate idea of the work done by them; and the vast achievements in the saving of life in India, to which he referred, and which are to be ascribed to the results of their labours, touch only on a part, although, so far as the public generally is more immediately concerned, the most interesting part, of those results. Epidemiology means something more than sanitary work, or sanitary science, in the popular sense of the term. It concerns itself with the scientific elucidation of the conditions under which diseases are apt to become epidemic, and of the diseases which are

chiefly characterised by their tendency to epidemic prevalence. So far as these elucidations admit of a practical application to the mitigation and prevention of disease, epidemiology forms an important part of sanitary science, and, inasmuch as all its perfected work must tend to the prevention of sickness, it may be held to be inseparable from that science. But while sanitary science treats of the intelligent and regulated application of acquired results in practice, epidemiology seeks to unravel the complicated phenomena which form the subject of its labours, apart from a consideration of the application of which the results of these labours may be capable, although, after the fashion of the medical mind, prosecuted under the belief that these results will prove of advantage to man. Epidemiology is not a favourite word of ours, but it has its convenience for certain usages, and we confess to a kind of sympathy with a recent paradoxical president of the Epidemiological Society who argued that the time had passed when the study of epidemics could be profitably pursued as an independent branch of medical science. Nevertheless he took the chair of the Society. His logic might be sound, but his practice was more consistent with the scientific conveniences of the present day.

Sir JOSEPH FAYRER limited his observations to certain points in the progress of epidemiological work in India, dwelling especially upon sundry debated questions relating to the etiology of enteric fever (its general connexion with filth in India) and of cholera (its transmissibility and relation to water-supply) which have given rise to much difference of opinion among observers in our great dependency, and which have provoked hardly less discussion, in regard to Indian observations on the subject, among epidemiologists in this country and in Europe generally. If these vexed questions were to be considered in such an address, nothing could well be more likely to promote a healthy consideration of them than the admirable temper and tone in which Sir JOSEPH FAYRER referred to them. Few could perhaps have more successfully sought to disentangle themselves from the prepossessions of the disputants, and dealt with the questions more dispassionately. He ingeniously compared these disputants to the knights-errant in the apologue, who having quarrelled and fought concerning the nature of the metal of which a particular shield was constructed, found, when each had disabled the other, that both were right and both were wrong. Applying the lesson, and arguing in effect that errantry among etiologists now is as much out of place as errantry among men of the sword, he would have the contending etiologists view both sides of the etiological shield in contention before prosecuting their quarrel further. He suggests, indeed, on the one hand, that Indian etiologists should push their inquiries with regard to the vexed questions with more of detail in regard to individual cases and outbreaks of disease in limited areas; and, on the other hand, that a mission of epidemiologists of European fame should be deputed to visit India, and study there the questions in dispute in conjunction with the eminent men who have devoted so many years of close attention to them.

But, so far as the epidemiologists in this country are concerned, does the apologue which Sir JOSEPH FAYRER makes use of rightly represent the state of the dispute? We doubt it. Here the debate has been, not of viewing the same object from different sides, but of regarding it from the same side under very different conditions of vision. Here it is said that the observations upon which it is endeavoured in India to revolutionise certain of the best established conclusions at which European judgment has arrived in respect to the etiology of enteric fever and cholera, do not admit of comparison in their precision and accuracy of detail with the observations on which the contrary conclusions have been formulated. Here, moreover, it is held sufficient to show the imperfection of the data on which the newer Indian opinions have been formulated, without prosecuting the debate further; and Sir JOSEPH FAYRER'S suggestion of the need of more detailed inquiry in India, within limited areas, on the subjects of dispute, practically concedes all that the English epidemiologist has contended for. And it is not to be forgotten that an overwhelming majority of Indian observers concur with English epidemiologists. In fact, there is no such scission between Indian and European observation on the questions in dispute as it has become the habit to assume. The question has obtained prominence from the accident of certain official relations of the Indian dissentients, not from the scientific value of their doubts. That Sir JOSEPH FAYRER should have seized upon the true source of difference between epidemiologists here and the particular epidemiologists in India whose views are in question, and had the opportunity of enunciating it from the chair of the Epidemiological Society, gives most hopeful promise of a healthier future for epidemiology in the latter country.

We must take objection to one part of Sir JOSEPH FAYRER'S address, in which he observes of the vexed questions referred to that, "Strangely enough, the two most opposed in nature as working hypotheses seem to have very little influence on the mode in which they are practically applied to sanitary work." We aver that the difference in practical application is essential. It is the difference between a rule-of-thumb application of a general principle and an intelligent (scientific) application. All are agreed, of course, on the general advantages of pure air, pure water, pure surroundings, and so forth, just as all are agreed regarding the advantages of daylight. But just as it is necessary for practical purposes that the utilisation of daylight should be governed by a due consideration of the times of the sun's rising and setting at different seasons, so it is necessary, in order to secure the full advantages of pure air, pure water, pure surroundings, and so forth, that we should give regard to the precise method of their attainment. This constitutes (the Army Sanitary Commission notwithstanding) the essential difference between the practical sanitary work inculcated in England and that inculcated under the newer etiological views promulgated in India. English experience is absolute against the sufficiency of any general rules for securing the purity of air, water, soil, and so forth. Indian experience, when more closely studied, will prove, we have no doubt, equally absolute.

IN our last issue we noted that a resolution had been passed at a conference of guardians held in Brighton, "urging that relief, and especially medical relief, should

be more constantly given on loan." The immediate economic consequence of this method, if the recipient of aid were made the debtor, would be to minimise the extent of the obligation incurred. It is not to be supposed that the sense of being in debt would oppress—and repress—the habitual pauper, but the knowledge that a score was being kept against him, particularly by so hard a creditor as the local authority, could scarcely fail to act as a salutary warning against malingering, and would probably induce him to regard the relief so easily asked and readily granted as of real money's worth. It is, however, fully as much for its probable effect on the minds of guardians as on the poor we desire to see the experiment which has been tried at Bradford, with the apparent effect of "reducing the applications for medical relief 90 per cent.," repeated elsewhere. It seems likely, or at least possible, that when men accustomed to look at matters commercially begin to keep a debtor and creditor account with any buyer or borrower of medical advice and appliances, it would begin to dawn upon them that these commodities have a marketable value. At present boards of guardians see only the purchaser's side of the bargain, and they naturally incline to cheapen the services of "doctors." If only because this loan system would compel them to take another view of the subject, and to reflect how much they are giving when they squander medical services, the experiment might be a useful one to the medical officers whose services began to be appraised, as well as to the paupers who should, for the first time in the history of Poor-law philanthropy, be given to understand that an "order" for "the doctor" is not the veriest trifle, for which he may ask without scruple, and feel no gratitude when bestowed. It is a sad mistake from the professional point of view to be paid by salary, because, although a certain sort of convenience attends the receipt of regular quarterly instalments, the effect on relieving officers and guardians is doubtless akin to that which results from supply by contract elsewhere, when the recipient is what is called thrifty—namely, that it becomes a pleasure to "take it out" of the contractor, and the more he is made to do for his money the better are his employers satisfied. Having agreed to pay so much per annum for the doctor's services, the only way left to secure the pleasure and credit of a bargain is to give the medical officer as large an amount of work for his money as can well be imposed upon him. The consequence is, that whenever the relief craved by an applicant is only medical it is given ungrudgingly, or if there be any reluctance on the part of the authorities it must take the form of an apprehension that "the doctor" may perhaps *recommend* "necessaries." So far as the mere work to be done by the medical officer, by day or by night, is concerned, the applicant is quite welcome to the boon he asks; and in some districts, it may be, the guardians are rather grateful to him than otherwise, because he helps to convert what might otherwise be an approximately fair scale of remuneration into a bargain. We repeat, it *may* be an advantage to medical officers if boards of guardians begin to discount loan notes for medical services. The mere habit of thinking of the doctor's advice and drugs as "value received" may bring it within the category of commodities which a sound commercial instinct should induce the vendor not to depreciate or place wholly "at call."

A regrettable consideration about this experiment is, that until it comes to be tried universally, or at least on a scale of sufficient magnitude to cover a large district, in common with other tests applied locally, it may have the effect of driving paupers into new districts. We all remember how Mr. Dick Swiveller stopped up street after street by contracting debts for pairs of gloves and other articles at all the eligible shops in his neighbourhood, until it became a matter of difficulty to go anywhere. In process of time, no doubt, a pauper might "loan" himself out of the kingdom by contracting debts for medical advice in every district, for it is not, we presume, contemplated that the obligations will not be enforced; but long before the field has been exhausted by a wandering real or imaginary invalid of the pauper class, he will have worn out the patience of many creditors or his own life in the enterprise. It is a necessity of a fair trial for the proposal that there should be some means of following the debtor. He will not, probably, stay to pay his bill for medical relief in one district, but, when the score becomes heavy against him, flit to another! Of course, there is always the large class of honest and struggling poor folk who would not trouble the rates but for sickness, and who do so very reluctantly even under exceptional pressure. To these persons the opportunity of obtaining medical aid without being pauperised would be a boon; but is it necessary that the sole services available on such terms should be those of the parish doctor? Would it not be practicable to arrange so that a family of the working classes, under some temporary cloud arising from the poverty caused by sickness, could obtain the assistance of *any* local practitioner who would consent to take a fee *from the authorities?* If, instead of being sent to the district medical officer in all cases, to swell his burden of work without increasing his pay, the applicant could, after proper inquiry, be provided with an order on some practitioner in the neighbourhood who would look to the Board for payment on a fixed scale, the proposal would take a peculiarly gracious and useful form. To prevent abuses, this privilege of attendance by any qualified medical man might be restricted to poor families continuously resident in the district during a long period, and not previously or at the time receiving any other form of "relief." The habitual and hereditary pauper, with his ancestral vices, would thus be debarred from the full advantages of the loan system, the debt he contracted being small, the obligation great, the creditor exacting; and, although he would probably succeed in getting the best of the Board, there could be no scruple about making him work out his debt when caught in a condition to practise so much exemplary industry. We have no compassion for the habitual pauper, except that which must always be felt for any degraded form of humanity; but for the sick poor of the industrial classes we have the sincerest sympathy, and on professional grounds we should be glad to see any scheme tried which, even remotely, promises to improve the position of our brethren in the Poor-law service. The burden thrust upon them, and, it would almost seem, bound more tightly each time any attempt is made to relieve them, is too heavy for any class of men to bear. Medical relief must, sooner or later, take a new form, and come to be interpreted as relief to the medical officers who, by a variety of personal and local circum-

stances, are driven to accept Poor-law appointments. The Local Government Board feels secure in the confidence that the market value of professional services will always remain small. We venture to question the solidity of the grounds of this anticipation. It seems to us that the rising spirit of the profession, and the manly self-assertion which is beginning to claim a just reward for services rendered, despite the traditional pretences and affectations of mock philanthropy, point to a difficulty in the commercial manipulation of this business which may arise sooner than is now expected. If the "loan system of medical relief" should offer the bases of a satisfactory adjustment of the Poor-law question we shall hail the effort which has been made, and applaud the sagacity by which a way to solve one of the most pressing of socio-economic problems has been devised.

Annotations.

"Ne quid nimis."

COMPULSORY CLOSING OF BOARD SCHOOLS ON ACCOUNT OF EPIDEMIC DISEASES.

UNDER the present regulations, the Board Schools are most formidable centres for the propagation of zymotic diseases among the population. Examples of this danger have unfortunately been somewhat numerous of late, and, as the elections for new members to the School Board take place shortly, it is well that the attention of ratepayers be drawn in time to existing deficiencies in the sanitary management of the schools under the control of the Board, with a view to their amendment. In a recent report to the Sanitary Committee of the City of London, the medical officer of health (Dr. W. S. Saunders) stated that notices to remedy the insanitary condition of the Greystoke-place (Fetter-lane) Board School had been duly served, and that at length the School Board of London had withdrawn their opposition to the closing of the school. It appears that an outbreak of measles occurred in October at the St. Dunstan's Infant School, in close proximity to the Greystoke-place Board School, and it was found necessary to close the former school. In the meantime the number of absentees at Greystoke-place School amounted to no less than 29·33 per cent. during the week ending Nov. 4th—a fact that requires no comment. Indeed, the concession of the School Board to permit the closing of this school did not come a moment too soon, for the whole neighbourhood seems to be infected with zymotic disorders. It is difficult to conceive why the School Board should have delayed this common-sense action, and it is still more difficult to see why the power of withholding their consent to such a very obvious precautionary measure should be permitted to rest with them. As matters at present stand, there is no power to order the closing of any school where infectious disease breaks out amongst the children attending, the option of doing so resting entirely with the School Board authorities. Consequently valuable time is lost in reporting to them in the first instance that such an outbreak has occurred, and more time is usually spent in persuading them that a closure is necessary. The opportunity therefore of preventing the spread of a zymotic disease when it makes its appearance in a neighbourhood is not only allowed to pass by, but, by continuing to congregate the children of the infected district together, the means of disseminating it among other districts is directly encouraged. This defect has on several occasions been brought under the notice of the Local Government Board, and it is to be hoped that at no distant date an opportunity will be afforded for introducing some amendment of the present regulations. The common-sense course to adopt would be to place all schools, Board or otherwise, under the control of the sanitary authority of the district, who, acting under the advice of their medical officer of health, should have full powers to order their closure when necessary. In the case of Board Schools, absentees from illness should be at once reported to the medical officer of health by the School Board inspectors, and the nature of the disease declared. If this plan were adopted, these schools, instead of being centres for the spread of infection, would serve as danger signals, and, by giving an early note as to the occurrence of zymotic disease in the neighbourhood, enable the sanitary authorities to take effectual measures to prevent its spread.

HOSPITAL ENDOWMENTS.

THE question of the propriety of funding legacies and large donations to medical charities is one of such interest to the profession, and is so continually arising, that at no time can it be inappropriate to discuss it. Unquestionably the conduct of any institution is greatly simplified when the whole or a substantial part of its income is the interest on secure investments; but the easier is by no means always the better path. The argument often adduced, that it is but fitting that a subscriber should be able to leave, as a permanent endowment, a sum which shall annually yield a sum equal to or beyond his subscription, that the institution be no loser by his death, is open to the objection that it supposes the world to be growing either less generous, or less able to meet the calls upon its charity, or less able to judge of the best ways of dispensing its charity. It is proverbial that the world is becoming more charitable, while there is every hope that the number of proper objects for charity will lessen, and there is nothing more notorious than the necessity for each age to determine the scope of its bounties, and we find it intolerable to be hampered with the restrictions of pious benefactors. As regards medical charities we think it must be admitted to be the sufferings of the present that plead most powerfully with the generous, and that donations are really intended to be used for their relief and not for those of an unknown future. Is it not also a sound doctrine that each age should be its own almoner, particularly as it alone can judge of its special wants? Does not the dependance upon the approval, sympathy, and help of the generous living and criticising public induce greater carefulness, and more complete adaptation to modern wants, in those institutions which are unaided by old endowments, and can make no debts? We can understand the holders of strange faiths and crotchets, who cannot rely upon the inherent truth of their beliefs to win for them their way in the world, securing for them by means of an endowment a certain degree of permanent support. But while accident and disease may happen to all, and the human heart can sympathise with misery, endowed hospitals seem to be an anomaly. But if this principle be acted upon, it is only right that there should be a certain reserve fund gradually accumulated in view of special emergencies.

HYPODERMIC "DRAM-DRINKING."

THE annotation with this heading, that appeared in THE LANCET of Oct. 11th, has called forth sundry communications from those interested in this subject. Among others we are told that in a well-known and rapidly-growing Nursing Association in the metropolis, nurses and sisters engaged in attending to out-patients are permitted to use these syringes, and, as we understand, to use their own judgments about the strength of the dose. As to the last permission we cannot speak positively, but may remind the writer, and others concerned, that sisters and head nurses at most of the

metropolitan hospitals are allowed to give these hypodermic injections in the wards, in most cases, we may assume, in lieu of the sedative draught commonly prescribed in chronic cases at night, where artificial sleep must be procured at almost any cost. Nor, with a properly trained staff of nurses, do we see any objection to such a practice, *as regards in-patients*. We think, however, that the managers of this Association are ill-advised in placing such an instrument and drug in the hands of one of their ordinary nursing staff, however skilled the latter may be. The physiological effects of a drug given in this way, and, indeed, those of the mechanical action of the needle itself, do not seem to be clearly known at present, for we read of cases where one man attributes tetanus to the drug, and another to the instrument that conveyed it into the system. Under such circumstances great caution should be exercised in placing instruments of this and analogous kinds in the hands of nurses. Several so-called "medical" instruments have been brought into common use during the past eight or ten years, but, as we take it, none so dangerous in partially educated hands as the hypodermic apparatus. It seems so simple, its results are so decisive, and the speedy transition from misery to ease is so very complete, that the patient is often too ready to mortgage the future for the sake of the present, ignorant of the fact that, though the practice is comparatively quite recent, there are individuals in existence whose lives would in their experience bear a close analogy to those of De Quincey, or any confirmed chronic alcoholist. Slaves to such evils need not be multiplied in civilised society, and it is the duty of our cloth to combat this pernicious practice with all their might, for we have yet to learn in what class of cases, acute or chronic, its unlimited use in unskilled hands can be held to be justifiable.

UNCERTIFIED CAUSES OF DEATH.

IT is satisfactory to learn from the Registrar-General's last Quarterly Return that the proportion of uncertified causes of death in England and Wales continues to decline. It is, at the same time, a fact of grave importance that during the three months ending September last no less than 4610 uncertified deaths were registered; in this large number of cases the deaths were registered and the bodies buried without the production of a certificate of the cause of death furnished either by a registered medical practitioner or by a coroner. The proportion of uncertified causes of death, which had been equal to 5·0 and 4·6 per cent. in the first two quarters of the year, declined to 4·4 per cent. in the third quarter. The proportion of uncertified deaths last quarter, which did not exceed 1·2 per cent. in London, ranged upwards in the other registration divisions to 7·0 in the Northern counties, and 11·3 per cent. in Wales. Hereford, Durham, and Cornwall are the three English counties showing the largest proportion of uncertified deaths. In the twenty large English towns dealt with in the Registrar-General's Weekly Return the proportion of uncertified deaths averaged 2·6 per cent., and ranged from 1·2 and 1·4 in London and Birmingham to 6·5 and 9·0 per cent. in Hull and Birmingham.

The non-certification of causes of death arises partly from the practice of unqualified practitioners, and partly from the neglect of parents and others to provide medical attendance during the last illness of the deceased. A very large proportion of uncertified deaths are those of children, many of whom have been insured in friendly societies. It is scarcely necessary, therefore, to insist upon the importance of reducing, as far as possible, the proportion of uncertified deaths in the general interest of society as well as of public health. The Registrar-General calls attention to the fact that in Chester-le-Street more than 30 per cent. of the causes of death last quarter were uncertified, the local registrar reporting that there are "five unregistered medical practitioners in practice" within his district. The Registrar-General naturally complains of the mischievous effect of this state of things upon the National Death Register as a source of trustworthy mortality statistics. There are, however, other and still graver reasons for urging the adoption of some measure for securing satisfactory evidence of the cause of every death previously to registration and burial. In the present unsatisfactory state of the law the co-operation of the medical officer of health and of the coroner affords the only means for checking the evils which undoubtedly arise from the facilities afforded for registration and burial in cases where no certificate of the cause of death is forthcoming. We can only appeal to medical officers of health, in the interest both of the public and the profession, to give this subject their constant attention.

THE EPIDEMIOLOGICAL SOCIETY.

THE first meeting of the Epidemiological Society for the present session took place on the 5th inst., when Sir Jos. Fayrer, K.C.S.I., M.D., F.R.S., took the presidential chair in succession to Surgeon-General Dr. John Murray. The great interest taken in the occasion was marked by the considerable number of distinguished men, among whom representatives of the Anglo-Indian Medical Service were especially conspicuous, who had gathered together in honour of the new President, and to listen to his inaugural address, which was published in THE LANCET of the 8th inst. We noted among the audience Lieut.-Gen. Sir Henry Norman, K.C.B., C.S.I., member of the Council of India; Surgeon-General Sir J. C. Browne, K.C.B.; Surgeon-General Dr. Mackenzie, C.B., C.S.I. (Madras); Surgeon-General Dr. Thom (Bombay); Dr. Norman Chevers, Deputy Surgeon-General Dr. Joseph Ewart, Dr. J. Macpherson, Dr. F. J. Mouat, Dr. J. A. Walker, Dr. A. Grant, Dr. Theodore Duka, Deputy Surgeon-General Dr. A. Watson, R.N., Surgeon-Major Clarke, of the Army Medical Department, and others. It is not the custom of the Epidemiological Society to discuss the President's address, but at the close a vote of thanks was moved by Inspector-General Lawson, seconded by Dr. Walter Dickson, R.N., the Medical Officer of Her Majesty's Customs, put to the meeting by Sir Wm. Smart, K.C.B., M.D., one of the Vice-presidents, and carried with acclamation. A vote of thanks, moved by Mr. Netten Radcliffe and seconded by Dr. Buchanan, to the retiring President, for the services rendered by him to the Society during his Presidency, was also heartily carried.

SCARLET FEVER IN LONDON.

SCARLET FEVER almost invariably shows increased fatality in the latter part of the autumn, and this year forms no exception to the rule. The fatal cases in the metropolis, which had been 79 and 69 in the two previous weeks, rose to 101 in the week ending last Saturday, and exceeded the corrected average weekly number by 15. The disease was more fatal in London last week than it has been in any week since December, 1875, and it was proportionally twice as fatal in East London as in the rest of the metropolis. The 32 fatal cases in East London last week included 5 in Shoreditch, 7 in St. George-in-the-East, 7 in Stepney, and 7 in Bow and Poplar. The disease in East London appears to have assumed an especially malignant type. A police-sergeant and his wife died from this disease last week in Shoreditch within two days of each other, and in four other instances 2 fatal cases were recorded in the same family. No less than 16 fatal cases were recorded last week within the borough of Southwark. In the face of this fatality, the greatest energy on the part of the metropolitan sanitary authorities and medical officers of health will be necessary to avert a severe epidemic. The Metropolitan Asylum

Hospitals contained 259 scarlet fever patients on Saturday last, a number differing but slightly from that recorded at the end of the two previous weeks; and 41 new cases were admitted during the week. It is impossible to doubt the value of the isolation afforded by these hospitals in cases of infectious disease, and it is satisfactory to know that the prejudice against these hospitals, on the part of the poor for whom they were intended, is wearing off. It should not, however, be forgotten that this hospital accommodation is most powerful for good in the early days of an epidemic, and that without an organised system for registering cases of infectious disease the means for isolation afforded by these hospitals is seldom brought into requisition until the prevalence of the fatal disease becomes apparent in the death-register, and is probably beyond control.

THE HOSPITAL SATURDAY FUND AND PROVIDENT DISPENSARIES.

THE leaders of the Hospital Saturday Fund can scarcely be insensible to the quiet severity of the letter of Mr. Alsager Hay Hill and of others. They greatly err in representing that the working men of London, in giving a few pence per year to the Hospital Saturday Fund, may feel a sense of independence in applying for a hospital letter. Providence is not such an easy virtue, and hospital attendance not such a cheap commodity, as Messrs. Hoare and Mackenzie seem to think. The plain fact is that the Hospital Saturday Fund is discreditable to the working men of London. If every farthing of it, amounting to £6000 or £7000, were contributed by the working classes, it would be a poor representation either of their means or of their obligation to London hospitals and dispensaries. But even of this pittance a large proportion is given by employers and by the public. It is not thus that the working men of London are to secure medical attendance for themselves on provident and independent principles, but by weekly payments, something like the daily payments they make to publicans. If the Hospital Saturday Committee cannot get from the working classes more than £6000 or £8000 a year for the hospitals and dispensaries of London, it had better confess its own failure than provoke those who work these institutions by filling the working classes with vain and false notions of their contributions.

MEDICO-SANITARY ORGANISATION, RURAL DISTRICT OF ST. PETERSBURG.

THE district of St. Petersburg, beyond the boundaries of the city, is stated to be divided into nine sanitary sub-districts, to each of which a medical officer is appointed. Five of these medical officers have other than sanitary functions. A medical officer moreover is appointed by the Municipal Council of Oust-Ijora. Three of the medical officers are appointed by the zemstvo. The two senior medical officers receive salaries of 2300 roubles a year; the junior medical officers' salaries are 1800 roubles. All the medical officers are, in addition, provided with lodging and firing. The budget of the medical service of the zemstvo for the year is estimated at 30,430 roubles.

THE USE OF HOSPITAL ISOLATION IN INFECTIOUS CASES.

WHEN we consider the enormous proportions which epidemics in London have lately attained, especially that of small-pox in 1876–7, which at first seemed almost within the care of one medical man in Islington, and as to which we are promised an investigation by the President of the Local Government Board, we are apt to be sceptical about the use of hospitals for isolation. One fact recorded in a recent report by Mr. Shirley Murphy, of St. Pancras, shows how, with an energetic and earnest medical officer of health, a check may be put on disease. Mr. Murphy's own few words state the case powerfully:—"The importance of early isolation of cases of scarlet fever cannot be too frequently urged, especially where these occur in houses inhabited by children or other susceptible persons. In one house in the parish, through want of these precautions, there were ten persons attacked with the disease, of whom four died. As soon, however, as the patients were sent to hospitals immediately they were attacked, and two of the dead at that time unburied were removed to the mortuary, not another case occurred, although sixteen children and eighteen adults remained, many of whom were susceptible to the influence of scarlet fever. If the first case had been sent to the hospital when it first occurred there is little doubt that this catastrophe would have been entirely prevented."

THE LEEK FEVER HOSPITAL.

IT is refreshing to find our contemporary, the *Leek Times*, taking the local authority (the Improvement Commissioners) of that town severely to task for delay in providing a sufficient fever hospital for their district. We infer from the tone of our contemporary's article that the local authority is lagging behind the wishes of the inhabitants in providing so necessary an item of proper municipal sanitary administration. Not that Leek does not possess a fever hospital, but the fashion of the existing hospital is, it would appear, discreditable to the place and dangerous to the patients. The Improvement Commissioners are certainly stirring in the matter; they have obtained plans for a new hospital, and are seeking the sanction of the Local Government Board for a loan to cover the cost thereof. But their rate of progress appears to be slow.

THE EPIDEMIC AT CAPE CLEAR.

THE epidemic appears to be abating, no additional deaths having been reported during the past week. At first the disease was thought to be typhus fever, but it is now known to be a bad form of measles, aggravated by the unfavourable conditions under which the cases have been treated. As far as can be ascertained, it seems to have been introduced to the island by a young girl who visited the mainland, where measles was prevalent, and who, on her return, was attacked with the malady. A temporary hospital has been constructed, and an ample supply of nurses and the services of two medical gentlemen have been obtained for the sufferers.

GALVANI.

BY the monument just unveiled at Bologna to Luigi Galvani, a tribute has been rendered to the great discoverer of animal electricity, and a direct rebuke administered to the individuals who would fain have made that discovery impossible. The sculptor, Cencetti, has admirably represented in marble that moment—so important for science and humanity—when the Bolognese physicist, by accidentally touching with two different metals the lumbar nerves of a vivisected frog, alighted on the law of animal electricity. Galvani's features, aglow with the

> "Procellosa e trepida
> Gioia di un gran disegno,"

are given with marvellous fidelity in the marble; and the statue, of colossal size, is worthily placed in the busiest quarter of one of Italy's greatest academic centres. The Minister of Public Instruction, his Excellency Signor Perez, and the Bolognese Professor of Physiology, Signor Vella, addressed the vast concourse of spectators on the unveiling of the monument, and enlarged with much felicity and force on the legitimate nature of the means by which

Galvani, through the infliction of a little pain on a batrachian, was able to confer such signal benefits on yet unborn generations of his species.

COMPULSORY VACCINATION IN INDIA.

AT a meeting of the Supreme Legislative Council at Simla on Sept. 30th, the Hon. Syud Ahmed Khan moved for and obtained leave to bring in a Bill to make inoculation illegal, and to render the vaccination of children compulsory in certain cities and cantonments in India. In 1877 a similar Bill was passed in Bombay, making vaccination from the calf compulsory, and forbidding vaccination from the human subject without the special sanction of Government, and then only when the supply of calf-lymph was inadequate.

Although, as we recently noticed (vol. ii. 1879, p. 328), the operation of vaccination can be performed all the year round in Calcutta and Lower Bengal, yet, in the drier parts of the Bengal Presidency, the North-West Provinces, Oude, and the Punjab, vaccination is only possible in the cold season, between November and March. In a recent number of the *Indian Medical Gazette* the great protective influence of vaccination in India is well shown.

The new Bill provides—(1) That the minimum and maximum ages for vaccination shall be one and fourteen years respectively; (2) that lymph shall not be taken from a child's arm without the consent of the parents. No provision is made for vaccination from the calf, as in Bombay.

"ROTTEN TEA."

The Times alleges that rotten tea, wholly unfit for food, has been recently sold in London. This is a most important announcement. If, as our contemporary infers, the débris of leaf, "coated with a greenish paint," the refuse of importation, in 1871 and 1872, has been sold for the purposes of adulteration, it is doubly important that measures should be taken to trace the destination of this "article," because "greenish paint" may be poisonous, and "rotten" tea-leaves are not fit for food. *The Times* has done good service by exposing this serious business.

PROFESSOR GUIDO BACCELLI, on the 6th inst., opened the winter session of the Roman University by a brilliant and loudly-applauded address on the "State Medicine of Antiquity and the Clinical Medicine of Modern Times." In the published form which it is shortly to assume the address will furnish occasion for much opportune and salutary discussion.

THE first detachment of sick, seventy in number, of the Russian Akhal-Téké expedition were landed at Petrovsk on the 30th September. The greater number of the patients were affected with paralysis of the legs. Accounts are given of the deplorable state of the survivors of the expedition.

THE number of *Le Progrès Médical* for November 8th is devoted to information concerning the French schools and universities, and contains also an intelligent article upon the London medical schools by M. Ch. Feré.

THE discussion at St. Thomas's Hospital on Antiseptic Surgery is postponed to Wednesday, December 3rd, at 8 P.M.

THE Executive Committee of the General Medical Council is summoned to meet on Friday, the 28th inst.

Abstracts
OF
INTRODUCTORY ADDRESSES
DELIVERED AT
IRISH MEDICAL SCHOOLS
AT THE
Opening of the Session 1879-80.

ROYAL COLLEGE OF SURGEONS MEDICAL SCHOOL.

THE inaugural address was delivered by Dr. ROE, who said that it was universally admitted that their profession was carrying on a noble work, not only by combating disease and allaying human suffering, but by tracing pestilence to its lurking places, explaining the laws of health, and showing how zymotic disease may be stamped out. He must at the outset assume that the new students, and they to whose counsels they defer, had duly considered their personal fitness and prospects of advancement in the profession which they were now about to adopt. Their first aim, no doubt, would be to acquire a theoretical and practical knowledge of the healing art. But that was not all that was expected from them. It was not in this way that medicine had been served by the many illustrious men who had raised their profession to a foremost place in the ranks of professions. He could tell them there were many who had obtained the highest honours and positions which their country could bestow, and had yet confessed that the legacy of a good name had done more for them than the inheritance of wealth. It was hardly possible for the young mind to estimate or realise the magnitude or interest of the profession of medicine. There was no single profession or occupation which had such influence on individual man.

TRINITY COLLEGE MEDICAL SCHOOL.

DR. MACALISTER, having shown the importance to the surgeon and physician of an accurate and intimate acquaintance with anatomy, and the kinds of knowledge required by the student, commented on some common mistakes into which students were apt to fall, such as regarding their studies simply as preparations for examinations instead of viewing them as fitting them for their after-career, and of burdening their memory with mere names, instead of engaging in practical work. The lecturer, in referring to the history of the University Medical School, said that their school of anatomy was nearly two centuries old, and that its past records contain pages which should encourage them to persevering labour. There was one period especially to which they looked back with pleasure and pride, when the chair which he had now the honour of occupying was filled by the illustrious Macartney. In those days large and enthusiastic classes flocked to the lecture-rooms of that eminent teacher, not from Ireland only but from England and the Continent. The lectures of Macartney's successor, Harrison, were remembered with pleasure by all those who had the opportunity of hearing that most eloquent of anatomical teachers, and many of those present had profited by the no less brilliant and more impressive lectures of Dr. McDowel. As long as the literature of anatomy is studied so long will the monograph of Dr. McDowel on the venous system, and his other anatomical works, be regarded as classical modes of anatomical description, which for erudition, clearness, and completeness, have been seldom equalled and never surpassed.

LEDWICH SCHOOL OF MEDICINE.

MR. NIXON, having referred to the death of Mr. Ledwich, next addressed the students, particularly in reference to the studies which should engage their attention during the session, and remarked that since the date of the foundation of the school, more than half a century ago, down to the present its aim and object had ever been to impart to its students a sound practical education; and that it had done so successfully was shown by the great confidence reposed

in it—confidence which was never stronger than it was to-day, as proved by this year's entries, the largest in its history up to this date, and also by the fact that in every quarter of the globe its *alumni* are to be found in the foremost ranks fighting the battle of life with marked success.

CATHOLIC UNIVERSITY MEDICAL SCHOOL.

DR. NIXON remarked that the social position which any profession attains depends upon the general culture of its members, upon its advancement as a science, and its improvement as an art. It was not very difficult to show the close connexion which medicine has with other sciences, standing, as it were, in the centre of the different pursuits of man. From mediæval times down to the present, we could trace the influence which it exercised upon society, because it embraced most of the branches of knowledge subservient to the interests of mankind. Take, for example, hygiene, that branch of medicine which has for its object the art of preserving life and maintaining the integrity of both body and mind. It not alone concerns the physical conditions of communities, but, in a secondary and no less important way, it influences our social and intellectual well-being. It deals with the different conditions which surround the individual—the air he breathes, the water he drinks, his food, the soil upon which he lives, the sun which lights and warms him. It concerns his communistic relations—as following various occupations, the nature of his dwelling, his sexual relations, and the political influence to which he is subject; and, lastly, it deals with him as a rational being, having instincts and passions capable of self-regulation and control.

CARMICHAEL MEDICAL SCHOOL.

DR. GORDON said it was unusual in that school to have addresses introductory to the session, but it had been adopted in the present instance in consequence of the altered conditions under which the institution was presented to the favourable notice and consideration of the students. At the start he must say that the credit of carrying out all the arrangements connected with the transfer of the school from the north-west corner of the city to its present more central and more eligible site was due to Dr. Reuben Harvey, whose energy and enthusiasm had sustained everyone concerned in the transfer. He recalled the circumstances under which the proprietary school was founded half a century since, and pointed to the distinguished success which had attended its teaching. The records of the schools disclose a bead roll of illustrious names not surpassed by any similar institution in the United Kingdom; and from the ranks of its pupils and teachers every professorial chair in Ireland was filled. The *alumni* had always done their duty, whether it lay in the dissecting-room, in making dangerous chemical experiments, in general practice, or in the army, braving the dangers incidental to the life of a combatant and medical officer in the theatre of war. He first named Dr. Robert Bentley Todd, who became eminent both as practising physician and still more as teacher in London, and whose "Cyclopædia" and "Clinical Lectures" would remain as specimens of high intelligence and almost oracular penetration. Next there was Thomas Andrews, late Vice-President of the Queen's College, Belfast, whose investigations into ozone, heat, and the changes undergone by matter in passing from the liquid to the gaseous state were invaluable. Then they had Dr. Allman, who first projected a Pupils' Medical Society, which it was most desirable should be now revived, and whose recent address on biological science at Sheffield was one of the most remarkable utterances on this most important subject. The names of Richard Carmichael and Robert Mayne should never be forgotten in connexion with the school; the first, as one of its greatest benefactors, and the second as one who conferred valuable advantages in the way of prizes.

MR. ROWLAND FLOCKTON, M.R.C.S. Eng., has obtained a superannuation allowance of £40 per annum on resigning as medical officer for the Snettisham district of the Docking Union, Norfolk.

HEALTH OF LARGE ENGLISH TOWNS.

FORTY-FIFTH WEEK OF 1879.

IN twenty of the largest English towns, containing nearly a third of the entire population of England and Wales, 5463 births and 3129 deaths were registered in the week ending last Saturday. The births exceeded by 281, whereas the deaths were 241 below, the average weekly numbers during 1878. The deaths were within 26 of the number returned in the previous week. The annual death-rate, which had been equal to 22·1 and 21·9 in the two preceding weeks, rose again to 22·1 last week. During the past six weeks of the present quarter the death-rate in the twenty towns has averaged 21·1 per 1000, against 21·7 and 21·8 in the corresponding periods of 1877 and 1878. The lowest death-rates in the several towns last week were 14·8 in Brighton, 15·5 in Oldham, 18·3 in Leicester, and 18·6 in Sheffield. The rates in the other towns ranged upwards to 24·6 in Hull, 26·8 in Leeds, 27·1 in Wolverhampton, and 30·1 in Sunderland. The deaths referred to the seven principal zymotic diseases in the twenty towns, which had been 475 and 442 in the two previous weeks, rose last week to 489; 192 resulted from scarlet fever, 105 from measles, and 60 from fever, principally enteric. The annual death-rate from these seven diseases averaged 3·5 per 1000 in the twenty towns, and averaged from 0·0 and 1·1 in Brighton and Hull, to 5·7 and 8·7 in Newcastle-upon-Tyne and Sunderland. Scarlet fever, as is usual at this season of the year, showed increased fatality; the fatal cases were proportionally most numerous in Leicester, Newcastle-upon-Tyne, and Sunderland. Measles was most fatal in Bradford and Leeds. Diphtheria caused eight more deaths in Birmingham, all of which were recorded in one registration sub-district; 11 deaths from this disease were also returned in London. No less than 41 of the 60 deaths referred to fever occurred in London, and but 19 in the nineteen provincial towns, which have an aggregate population somewhat larger than that of London. Small-pox caused 3 more deaths in London, but not one in any of the large provincial towns; two of these three fatal cases, however, occurred in the Highgate Small-pox Hospital, both of which had been admitted from Barnet. The Metropolitan Asylum Hospitals contained 41 small-pox patients on Saturday last, against 36 and 37 at the end of the two previous weeks; 12 new cases were admitted to these hospitals during the week, against 5 and 7 in the two previous weeks.

As may be expected at this season of the year, the fatality of diseases of the respiratory organs increases steadily. The deaths referred to these diseases in London have risen during the past five weeks from 190 to 405; the latter number returned during last week was, however, 7 below the corrected average for the corresponding week of the last ten years.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.

AT a meeting of the Council of this Association, held at their rooms, 3, Bolt-court, Fleet-street, on November 1st, it was resolved, that in view of the approaching general election it is desirable to bring under the notice of candidates for a seat in Parliament certain disabilities affecting the Poor-law Medical Service in the three countries.

First, in reference to the abuse in the issue of white, and notably red tickets, under the Medical Charities Act in Ireland, with a view to the curtailment of which it is desirable to ask for a modification of the arrangements, whereby every member of the Dispensary Committee is permitted to grant a ticket.

As regards Scotland, that there should be a complete rearrangement and reform of the system of medical relief, which should be modelled on the principles embodied in the Bill brought in by Mr. Crawford, and which has been brought year by year before the House of Commons by successive Lord Advocates.

Lastly, as regards England, the Association advocates an extension of the dispensary system generally throughout the provinces; the rearrangement and curtailment of

the medical districts, in accordanne with the board's general orders; the concession of greater powers to district medical officers in ordering necessaries in the treatment of the sick; a compulsory in lieu of a permissive superannuation; the introduction of efficient medical inspectors, to be selected from experienced members of the Poor-law medical service; and the consideration of the recent orders of the Local Government Board in imposing sanitary duties on Poor-law medical officers without additional remuneration.

Correspondence.

"Audi alteram partem."

"CANCER OF THE BREAST FOLLOWING ECZEMA OF THE NIPPLE."

To the Editor of THE LANCET.

SIR,—I think Mr. Lawson is fairly entitled to the thanks of the profession for his "Notes of a Case of Cancer of the Breast following Eczema of the Nipple," read before the Clinical Society at its meeting on October 24th. The able discussion which followed elicited the opinions of some of the ablest surgeons of the day, who were almost unanimous in their advocacy "of prompt and energetic intervention in such conditions"—"conditions" about which, by the way, little appears to be known at present. Sir James Paget in his remarks said, "There were stages of the disease in which it is curable." With this opinion I thoroughly agree. In support of which I will adduce the notes of two cases which have come under my observation within the last two years.

CASE 1.—Mrs. ——, aged forty-four, married twenty years, has had three children, the last eleven years ago. She first consulted me January 25th, 1878. For several years she had been an invalid for the most part, suffering from eczema of the right breast for the last nine months. The "eczematous condition" occupied the whole front surface of the breast, forming a circle round the nipple of from three to four inches. In the immediate vicinity of the nipple, for about an inch, the cuticle was thickened and hardened, which gradually subsided as the distance from the nipple increased, until it was finally lost. The nipple was retracted, flattened, and deeply fissured, especially round its base. There was a good deal of itching and irritation. The breast was much enlarged, nodular, and very painful; the neighbouring lymphatic glands were similarly affected. The general health was greatly depreciated from continued irritation, loss of appetite, broken rest, and annoyance.

This case had been pronounced to be one of cancer, and an operation had been proposed. From a surgical point of view the evidence in favour of cancer and operation appeared satisfactory and conclusive, but from a gynæcological point of view there appeared to be substantial grounds for believing that the breast symptoms, severe though they were, might possibly be due to what may be called reflex uterine irritation.

For several years this lady had suffered from symptoms indicative of chronic metritis, or continued uterine congestion. Leucorrhœa, abdominal pains, often very severe, sacralgia, fulness in the pelvis, with weight and bearing down when walking or standing was attempted; continued desire to urinate; constipation alternating with diarrhœa; painful menstruation, which was generally in excess; constant pains in the left groin, extending down the front and inside of the thigh. These symptoms had been regarded as secondary and their importance ignored.

On examination the uterus was found low down, much enlarged, very painful when manipulated and completely lateroverted to the left. The cervix was short and soft, and the os was gaping open, its surface being denuded from continued leucorrhœal discharge. Locomotion was both limited and painful. Notwithstanding all the signs, positive and negative, of uterine disease, no examination had ever been made, and when I suggested such an examination, the patient expressed a doubt as to whether it was really necessary, as nothing of the kind had hitherto been proposed.

A careful consideration of the whole case in its several bearings inclined me to the belief that the breast symptoms were due to reflex uterine irritation. Adopting this view, it followed as a matter of course that the local treatment of the breast would be of the simplest kind. A lotion containing equal parts of tincture of opium and glycerine, applied night and morning on lint, covered with oil-silk, and overwrapped with cotton wool, constituted the whole treatment as directed to the breasts: the attention being chiefly directed to the uterus and its difficulties. The patient was under treatment until April 18th (three months), on which day she left London in better health than she had been for years. The breast had resumed its normal characteristics and appearance, differing in nothing from its companion. I heard of this lady in August of this year; she was in excellent health, and has had no return of the breast affection.

CASE 2.—Mrs. T——, aged thirty-four, was admitted under my care into the Chelsea Hospital for Women March 25th, 1878. Her condition, both special and general, was in all essential respects a counterpart of Case 1, with the addition—viz., that both breasts were affected, and the "eczematous condition" had continued eighteen months. This being the case, a detailed account is not necessary. The same plan of treatment was adopted as in Case 1, with results equally satisfactory. This patient called to see me on Sept. 1st, 1879, both breasts continuing quite well.

The results of my experience would lead me to the following conclusions, viz.:—

1. That eczema of the nipple and breast is not a common affection.
2. That the cases I have observed having occurred in married women who had borne children, and who had sustained more or less injury during parturition, which had gradually merged into chronic uterine disease, I should be disposed to regard such women as more liable to the disease than the unmarried, or, being married, had not borne children.
3. That eczema of the nipple and breast is rather a secondary affection than a primary disease, being, indeed, an "external sign of an internal change."
4. That the diagnosis should not be considered complete or satisfactory where the uterus has not been examined.

I am, Sir, your faithful servant,

THOMAS CHAMBERS,
Senior Physician to the Chelsea Hospital for Women, &c.
Chester-square, Nov. 11, 1879.

VACCINATION AND REVACCINATION.

To the Editor of THE LANCET.

SIR,—The severe nature of the small-pox epidemic which visited London during the autumn of 1876, and prevailed with more or less intensity during the whole of 1877 and 1878 and part of 1879, induced the managers of the Metropolitan Asylum district, upon whom, in their official capacity, devolved the treatment of a large proportion of the infected, to collect certain statistical facts which illustrate the advantages of efficient vaccination and revaccination, as evidenced by the experiences of the medical superintendents of the several small-pox hospitals under the control of the Board. The observations of these gentlemen confirm former opinions on the subject, and establish beyond doubt the mitigating influences in small-pox cases of successful primary vaccination, and the preventive powers of efficient revaccination.

The total number of small-pox patients treated in the various hospitals of the managers, from the outbreak of the epidemic in 1876 until the commencement of the present month, has been 15,171, of whom 11,412 were vaccinated and 3759 unvaccinated, and it is believed that for each case treated in the Board's hospitals, another was privately attended; hence some idea may be formed of the magnitude of the epidemic. The total number of deaths which occurred in the hospitals during the period under consideration was 2677. Of these 1008 were vaccinated and 1669 were unvaccinated cases. The percentage mortality upon the whole of the admissions was therefore 17·6, being at the rate of 8·8 per cent. of the vaccinated and no less than 44·4 per cent. of the unvaccinated.

It may be observed that, among the 11,412 vaccinated patients admitted, are included the majority of those who stated that they had been vaccinated, but upon whom no

traces of vaccination were discernible. No case of small-pox has come within the cognisance of either of the medical superintendents of any person who had been efficiently vaccinated and successfully revaccinated. The nurses and servants employed from time to time at the various hospitals during the epidemic have enjoyed almost absolute immunity from infection, and the few—some half-dozen amongst nearly one thousand—who contracted the disease whilst discharging their duties had, from some cause or other, escaped revaccination before entering the wards. Experience has therefore irrefutably proved that, were vaccination efficiently performed in infancy, within the period prescribed by the Vaccination Act, and revaccination successfully accomplished at puberty, small-pox, instead of being, as it is at present, a common and extremely fatal disease, would be a comparatively rare one and so little fatal that few, if any, deaths would result from it.

I am, Sir, your obedient servant,
W. F. JEBB, Clerk.

The Metropolitan Asylum District, Norfolk-street, Strand, Oct. 30th, 1879.

EPSOM COLLEGE.

To the Editor of THE LANCET.

SIR,—Those parents who have boys at Epsom have been informed, by circular, that an outbreak of scarlatina has occurred at the school—the second within eighteen months. It requires no inspiration to know that there is something radically wrong either in the sanitary condition of the school buildings or in the supervision of the boys. One of two things has happened. Either the fever has broken out on the spot *de novo*, or it has been imported. If the former, there must be some serious defect in the hygienic arrangements; if the latter, there must be a looseness of discipline not pleasant for parental contemplation. In either case a strict inquiry is demanded, and the application of prompt remedies. The present members of Council are, no doubt, amiable and excellent men, but the question is not one of private character; it is this—Do these amiable gentlemen constitute an efficient "governing body," or do they delegate legislative as well as administrative functions to the local authorities?

The prosperity of Epsom is a matter of great importance to the medical profession, and it cannot but be seriously jeopardised by these repeated outbreaks of a dangerous disease. It is clearly the duty of the members of Council to make a searching inquiry into the origin of the outbreak; and if they fail in this duty, parents will not fail to make a searching inquiry into the propriety of infusing new blood into the existing governing body, or of superseding it altogether.

Yours faithfully,
JAMES WILLIAMSON, M.D.

Mildmay-park, N.

"LOOKING AT HOME."

To the Editor of THE LANCET.

SIR,—Yesterday application was made at our Town Hall to inspect the register of "houses certified to be in a proper sanitary condition," and information was given that *two* had passed the examination and received the certificate. So much for the "move made in the right direction" last January.

There is much required to place this town in a proper sanitary condition. Perhaps the knowledge that your columns are always open to advance the cause of public health, and your attention called to the town of Ramsgate, may arouse the Improvement Commissioners to a consciousness of the fact that sanitary requirements are of paramount importance, and that it is their duty to preserve the natural salubriousness of this place from deterioration by avoidable causes.

Yours obediently,
F.R.C.S.

Ramsgate, Nov. 4th, 1879.

HEALTH OF IRELAND.—During the quarter ended 30th September last, there were registered in the 799 registrars' districts in Ireland 32,918 births, a number equal to an annual birth-rate of 24·6 per 1000; and 20,423 deaths, representing an annual mortality of 15·2 per 1000. Deaths from the principal zymotic diseases numbered 1996, or 9·8 per cent. of the total deaths registered.

BIRMINGHAM.

(From our own Correspondent.)

THE General Hospital having just completed the hundredth year of its existence as a medical charity, the committee have issued a circular to the governors, suggesting that this important event should be commemorated. It was the first medical charity established in Birmingham, and is, in addition, one of the oldest in the provinces. When first opened, although designed to hold 100 beds, only 40 were provided; while at the present time it contains 250, which are nearly always fully occupied. It has numbered among its physicians such worthies as Ash, Withering, and Johnstone, while the names of Freer, Wood, and Hodgson have adorned its list of surgeons. The suggestion of the committee is that the memorial should take the shape of a suburban hospital, devoted to the treatment of chronic cases, such as affections of the bones or internal organs, spinal diseases, ulcers, the sequelæ of typhoid and scarlet fevers, measles, and such like. The committee do not at present intend to do more than notify to the public their intention, and, if possible, to secure a fitting site for the proposed hospital. No active canvass for subscriptions will be prosecuted until the prevailing commercial depression has given place to more prosperous times.

The annual meeting of the governors of the Queen's College was held on the 24th ult. In their report to the governors the Council state that the medical department is in a very prosperous condition, eighty-three students being in attendance upon the classes. The only changes that have taken place in the teaching staff are the appointment of Dr. Bostock Hill to the chair of Chemistry, and the election of Mr. C. B. Suckling to the office of medical tutor. A letter having been read from the Earl of Lichfield resigning his position as President, a resolution was passed expressing regret at his lordship's resignation, and a deep sense of the services which he has rendered to the institution. It was decided to defer election of another President for a short time. The entry of new students is large and in excess of last year. The students' annual dinner was to be held on the 13th inst., at the Grand Hotel; Mr. Furneaux Jordan, Professor of Surgery at the Queen's College, being in the chair.

The collections on Hospital Sunday were this year devoted to what are known as the amalgamated charities—viz., the Dispensary, the Children's, the Women's, the Orthopædic, Homœopathic, and the Dental Hospitals, and the Ear and Throat Infirmary. Notwithstanding the bad times, the people of Birmingham have nobly responded to the appeal for their aid, the large amount of £4920 11*s.* 2½*d.* having already been received, and there is little doubt but that in a few days at least £5000 will be obtained.

PARIS.

(From our own Correspondent.)

THE clinical chair of Mental Medicine has at last been organised at St. Anne under the direction of Professor Ball. Great difficulty had been experienced in settling this question. Even as it stands, the clinical service is a miserable affair, containing only male patients, and organised in defiance of the principles which common sense has led mental practitioners to adopt in the construction of asylums for the insane. Such as it is, however, it will allow Professor Ball to break at last the compulsory silence to which he has been condemned for more than two years after his nomination.

M. Laboulbène, the new professor of History of Medicine, commenced his course of lectures last Thursday, and was warmly received by a large audience. The *agrégés* of the Faculty have always been glad enough to rise to the professorate by a nomination to this chair, but it has hitherto been looked upon only as a stepping-stone to more desirable appointments, the Professor of History of Medicine generally having been allowed to permute when another vacancy occurred amongst his colleagues. This state of things was far from satisfactory. The *prestige* of the chair was lowered, and the number of students attending was always limited. It is understood that M. Laboulbène engaged that, in case of election, he would never seek to permute. Such an under-

taking amounts in reality to nothing, as should M. Laboulbène ever be able to command a majority for election to another chair, the same majority would of course serve to *invite* him, in spite of his engagement, to present himself as a candidate. There are now four vacancies at the Academy of Medicine, and the greatest activity is displayed by aspirants for a seat in that learned but somewhat quarrelsome body. For the section of Anatomy and Physiology the competitors are very numerous, but if reports are to be credited, the Academy has resolved to choose a physiologist, as the last three members elected in this section have been anatomists. Should this be the case, the choice of the Academy will fall either upon M. Matthias Duval or M. Laborde, whose only physiological opponent is M. Dareste, a teratologist of merit, but who would be somewhat out of place in this department. In the section of Pathology MM. Fournier and Bucquoy, in that of Therapeutics MM. Vidal, Constantin Paul, and Dujardin-Beaumetz, and in Legal Medicine MM. Brouardel and Gallard, are mentioned as having very equal chances of success.

The accommodation in the Paris hospitals is now so insufficient for the wants of the population that overcrowding often occurs to a very serious extent. In some wards, for instance, designed for the reception of sixty patients, as many as eighty will often be found, and the extra beds are made up upon stretchers, when these are procurable, but quite as often on the bare floor. It is stated by Dr. Blachet that at least two thousand more beds are required, and he proposes to utilise a number of cottage barracks, which are dispersed around Paris just within the fortifications, for this purpose. It is also suggested to admit into the hospitals only those cases where active interference is likely to be required. Such complaints as typhoid fever and pneumonia, which require nursing rather than treatment, should be visited at the patients' homes by the district physician of the Bureau de Bienfaisance; at the same time pecuniary assistance should be afforded in such cases by the Bureau Central to the amount of two francs daily, which is the average cost per bed in the hospitals.

The treatment of epithelioma by a saturated solution of chlorate of potash, mentioned by your correspondent "Flaneur," in THE LANCET of September 6th, is attracting some attention. Dr. Féréol recently reported three successes at the Société de Thérapeutique, and Dr. Tournié relates in the *Gazette Hebdomadaire* the instructive history of one of his patients. In consultation with Nélaton it was decided to destroy a cancroid growth on the lower lip, but circumstances prevented the operation taking place for a fortnight. Hoping to check the further progress of the disease during the delay, Dr. Tournié advised the application of a mixture of honey of roses and chlorate of potash. At the end of the fortnight so much improvement had occurred that the operation was abandoned, and the treatment being continued, the tumour disappeared entirely. The patient is now ninety years of age and in perfect health. A memoir on this subject has also been communicated to the Société de Chirurgie by M. Pilate.

A case of poisoning by fungi resembling mushrooms is reported to the Academy of Medicine. A whole family of five persons died during the night after partaking of them.

Paris, Nov. 12th, 1879.

ROYAL COLLEGE OF SURGEONS.

AT an ordinary meeting of the Council of the Royal College of Surgeons, held on Thursday last, Mr. Humphry, Mr. Marshall, and Mr. Savory were re-elected members of the Committee on Examinations in Anatomy and Physiology. The following gentlemen were elected members of the committee on Mr. Hancock's motion (see THE LANCET, October 18th ult., p. 596):—Messrs. Hancock, Marshall, Birkett, Savory, and Holmes.

Mr. Holmes's motion (seconded by Mr. Simon), to refer the question of altering the curriculum with regard to Anatomy and Physiology to the Committee on Examinations in Anatomy and Physiology, was unanimously adopted.

Mr. Gay gave notice of motion for the alteration of Section 2 of the bye-laws, relating to the election of Examiners in Anatomy and Physiology, with the view of making members eligible for these examinerships.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the Primary Examination in Anatomy and Physiology at meetings of the Board of Examiners on Monday, Tuesday, and Wednesday last:—

Rastamji H. Cama and K. R. Vicaji, Bombay; William G. Davis, Philadelphia; Johannes Sauer, Walter C. Beevor, Wm. H. O. Mills, Jas. A. L. Calder, Robt. R. Rentoul, John D. Malcolm, and Henry W. Phillips, Edinburgh; E. E. L. Bowley, Albert W. Griffin, G. F. Travers, and Frederic T. Bennett, St. Bartholomew's Hospital. Charles H. Welford, Aberdeen; John Conway and Jas. K. Norman, Glasgow; John J. Tighe and William H. Line, Dublin; George A. Patrick, C. A. J. Robertson, and Edward Gordon, Owens College, Manchester; Ernest Leonard and Frank Tratman, Bristol; M. Bernard Shirley, Leeds; Cecil Birt, Birmingham; John W. Megarry, Charing-cross Hospital; Albert W. Beaumont, Cambridge and St. Mary's Hospital; Elias Keys, University College; Frank Hewkley, London Hospital; S. J. W. Hayman, St. Mary's Hospital; Robert B. Roe and Henry L. Albert, St. George's Hospital; Frank Allwork, Westminster Hospital; Allan H. Jackson, H. W. Moor, and J. A. Fraser, Guy's Hospital; Thomas B. Grimsdale, J. C. R. Freeborn, H. T. Medley, William R. Pollock, and E. A. Marrns, St. George's Hospital; A. L. Copner, Alfred Robinson, C. A. E. A. Field, and H. W. Burke, St. Bartholomew's Hospital; H. M. N. Milton, St. Thomas's Hospital; Hy. G. Sworn, University College; F. C. Mears, London Hospital; John Fletcher, Manchester; Daniel Thurston, London and Westminster Hospitals; Charles Wray, London Hospital.

Of the 71 candidates examined on the above-named days, 16 were referred for three, and 3 candidates for six, months' further anatomical and physiological study.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Nov. 6th:—

Haycroft, Charles Henry, Starcross, Devonshire.
Wray, George Bury, Mansfield-road, Nottingham.

The following gentlemen on the same day passed the Primary Professional Examination:—

Joseph Henderson Martin and Frank Newcombe, Middlesex Hospital; John Joseph Whelan, Grant Medical College, Bombay.

DEATH FROM HYDROPHOBIA.—Shortly before midnight on Saturday a boy named William Willacy, five years of age, of Aughton-street, Preston, died from hydrophobia. He was bitten some weeks ago by a rabid mastiff, which bit at least twelve other persons, three of whom have died. In the case of the lad the development of the malady was rapid, and ended in death after forty-eight hours' intense suffering.

DUBLIN HOSPITAL SUNDAY.—Collections were made in the Dublin churches last Sunday in aid of the Hospital Fund; and, as the weather was unusually fine, it is believed that the total amount collected will be equal, if not in advance, of that obtained last year. A football match took place on the previous day, which proved a great success, a sum of nearly £40 being available for the purposes of the fund.

SOCIETY OF PUBLIC ANALYSTS.—The next ordinary meeting of this Society will be held at Burlington House, Piccadilly, on Wednesday, the 19th inst., at eight o'clock, when the following papers will be read and discussed:—"On the Mineral Constituents of Cinnamon and Cassia," by O. Hehner, F.C.S.; "On the determination of Carbonic Acids in Carbonates," by G. W. Wigner, F.C.S.; "On the Examination of Coffee," by A. H. Allen, F.C.S.; note on the Discrimination of the Starches by means of Polarized Light, by Dr. Tripe.

CHLORAL REGISTERED AS A POISON.—At the inquest touching the death of Dr. Hay, held last week, Dr. Elliott, the coroner for Carlisle, alluded to the action taken by him some time ago with regard to getting chloral included amongst the poisons which it is unlawful to sell either wholesale or retail unless the packet in which such poison is contained be distinctly labeled with the name of the article and the word "poison," and with the name and address of the seller. The following is the resolution passed by the Pharmaceutical Society in December, 1877. "That by virtue and in exercise of the powers vested in the Council of the Pharmaceutical Society of Great Britain, the said Council does hereby resolve and declare that chloral hydrate and its preparations ought to be deemed poisons within the meaning of the Pharmacy Act, 1868, and ought to be deemed poisons in the second part of the Schedule A of the said Pharmacy Act, 1868." The resolution received the approval of the Lords of the Privy Council.

BOOKS ETC. RECEIVED.

D. APPLETON & Co., New York.
Yellow Fever. By John Gamgee.

BELL & BRADFUTE, Edinburgh.
Strangeway's Veterinary Anatomy. Revised and Edited by J. Vaughan.

BLACKWOOD & SONS, London.
Manual of Palæontology. By Dr. H. A. Nicholson. Vols. I. & II.

J. & A. CHURCHILL, London.
St. George's Hospital Reports. Vol. IX. 1877-8.
The Riviera. By E. I. Sparks.
Glaucoma; its Causes, Symptoms, Pathology, and Treatment. By Priestley Smith.
St. Thomas's Hospital Reports. Vol. IX.
On Diseases of the Eye. By E. Nettleship.

HATCHARDS, London.
Counsel to Parents. By Dr. E. Blackwell.

H. K. LEWIS, London.
Syllabus of Lectures on Physiology. By Dr. J. Burdon-Sanderson.
Manual of Anæsthetics. By Dr. L. Turnbull.

LINDSAY & BLAKISTON.
Practical Surgery. By Dr. J. E. Mears.

LONGMANS, GREEN, & Co., London.
Annals of Chemical Medicine. Vol. I. By Dr. J. L. W. Thudichum.

J. MACLEHOSE, Glasgow.
A System of Midwifery. By Dr. W. Leishman.

MACMILLAN & Co., London.
A Text-book of Physiology. By Dr. M. Foster.

SIMPKIN, MARSHALL, & Co., London.
An Hour with a Sewer Rat. By G. G. Hoskins.

JOHN SMITH & Co., London.
The Physicians' and Surgeons' Visiting List. 1880.

SMITH, ELDER, & Co., London.
Functional Derangements of the Liver. By Dr. Murchison.
Poems. By W. F. Smith.

E. STANFORD, London.
An Atlas of Anatomy, or Pictures of the Human Body. By Mrs. Fenwick Miller.

W. YOUNG, London.
Vaccination Tracts.

On Phthisis and the Supposed Influence of Climate. By W. Thomson. (Stillwell & Co., Melbourne.)—Observations and Comments on Certain Convulsive Disorders. By Dr. H. Day. (J. & A. Churchill.)—The Quarterly Review; October. (J. Murray.)—Brain; October. (Macmillan & Co.)—Twelve Complete Clinical Charts. By L. F. Hobson. (H. K. Lewis.)—The Magazine of Art; Nov. The Quiver; Nov. (Cassell & Co.)—Elementary Artistic Anatomy of the Human Body. By Dr. J. Fau. (Baillière, Tindall, & Cox.)—Infant Mortality. By Dr. T. B. Curtis. (W. Wood & Co., New York.)—Archives of Ophthalmology. Vol. VIII. No. III. (G. P. Putnam & Sons, New York.)—The Sunday Magazine; November. Good Words; November. Little Snow-flakes. Good Cheer. (Isbister & Co.)—Report on the Pathological Histology of Epizootic Pleuro-pneumonia. By Dr. C. S. Roy. (The British Medical Association.)—Sanitary Fallacies. By W. H. Corfield. (H. K. Lewis.)—The Treatment of Uterine Myoma by Abdominal Section. By Dr. T. Savage. (J. Allen, Birmingham.)—Fraser's Magazine; November. (Longmans, Green, & Co.)—The Contemporary Review; November. (Strahan & Co.)—The Sunday at Home; November. The Leisure Hour; November. The Boy's Own Paper; November. (The Religious Tract Society.)—The American Journal of Otology; October. (W. Wood & Co., New York.)—The Fortnightly Review; November. (Chapman & Hall.)—The Nineteenth Century; November. (C. Kegan Paul & Co.)—Let there be Light. A Treatise on the Duality of Forces. By "Vindex Veri." (J. Heywood, London.)—The Artificial Eye. By E. A. Browne. (Trübner & Co.)—The Necessity of Mental Culture. By C. J. Nixon. (J. Falconer, Dublin.)

Medical Appointments.

BARCLAY, J., M.D., C.M., has been appointed Certifying Factory Surgeon for the District of Banff, vice Clayton, deceased.

BERNSTEIN, M. J., M.B., has been appointed Assistant House-Surgeon to the Wolverhampton and Staffordshire General Hospital.

CLARKE, J. P., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been appointed Certifying Factory Surgeon for the District of Castleblayney, co. Monaghan.

CORDNER, L. M., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Certifying Factory Surgeon for the District of Aughnacloy, co. Tyrone.

CREAGH, J., L.R.C.P.Ed., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, &c., for the Mallow Dispensary District of the Mallow Union, co. Cork, at £115 per annum and fees, and £15 per annum as Medical Officer of Health, vice Berry, resigned.

DAVIES, D., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Kentchurch District and the Workhouse of the Dore Union, Herefordshire, and Medical Officer of Health for the Kentchurch Sub-district of the Dore Rural Sanitary District, vice Dale, resigned.

DAWSON, J., M.D., L.R.C.S.I., has been appointed Certifying Factory Surgeon for the District of Stapleford, vice Bosquet, deceased.

DUFF, A., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, &c., for the Castlerea Dispensary District of the Castlerea Union, co. Roscommon, at £100 per annum and fees, and £25 per annum as Medical Officer of Health, vice Cuppaidge, resigned.

DUNLOP, A., M.D., L.R.C.P.Ed., has been appointed Honorary Consulting Physician to the Jersey Female Orphans' Home, vice Bull, deceased.

EDMUNDS, R., M.R.C.S.E., has been appointed Certifying Factory Surgeon for the District of Pontypool, vice Pearse, resigned.

GABBETT, H. S., M.B., L.R.C.S.I., has been appointed a Physician to the St. Marylebone General Dispensary.

GEORGE, A. B., L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Whitchurch District and the Workhouse of the Whitchurch Union, Salop, vice Bromfield, resigned.

GIBSON, C. P., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Wetherby District and the Workhouse of the Wetherby Union, Yorkshire, and Medical Officer of Health for the Wetherby Rural Sanitary District, vice Wesley, resigned.

HARRISON, S. N., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer to the Earl of Shaftesbury Lodge of the United Ancient Order of Druids, Skirlaugh, vice Solomon, whose appointment has expired.

HENRY, J., M.D., L.R.C.S.I., has been appointed Medical Officer of Health for the Rochdale Urban Sanitary District, at £100 per annum, vice Wilson, appointed to the Doncaster Urban Sanitary District combined with several others.

HICKS, F. J., M.R.C.S.E., L.S.A.L., has been appointed Resident Medical Officer to the Hospital for Consumption and Diseases of the Chest, Brompton, vice Law, resigned.

HUTTON, T. G. B., L.R.C.P.Ed. & L.M., L.R.C.S.I., has been appointed Medical Officer and Public Vaccinator for the Hartland and Clovelly Districts of the Bideford Union, vice Curtin, resigned.

KERIGAN, L., L.R.C.S.I., L.A.H.D., has been appointed Medical Attendant to the Royal Irish Constabulary, Castletown and Streamstown, co. Westmeath, vice Strahan, resigned.

LYNDON, G., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been appointed Certifying Factory Surgeon for the District of Ballinagh, co. Cavan.

MACAULAY, A., M.B., C.M., has been appointed Medical Officer and Public Vaccinator for the Parishes of Kildalton and Oa, Islay, vice Cameron, deceased.

PARKINSON, S. G., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Wimborne-Minster, Dorsetshire, vice Batterbury, resigned.

PENTLAND, A., M.B., L.R.C.S.I., has been appointed Assistant House-Surgeon to the Metropolitan Free Hospital, vice Hall, resigned.

SANDELS, W. J., L.F.P.S.G. & L.M., M.R.C.S.E., has been appointed Certifying Factory Surgeon for the District of Lisnaskea, co. Fermanagh.

WALKER, W. H., M.R.C.S.E., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Bugbrooke, Northamptonshire.

Births, Marriages, and Deaths.

BIRTHS.

BRAMWELL.—On the 5th inst., at Percy-gardens, Tynemouth, the wife of John W. Bramwell, M.D., of a son.

CARTER.—On the 4th inst., at Lynton House, Anerley, the wife of George Roe Carter, L.K.Q.C.P.I., of a daughter.

DANIEL.—On the 2nd inst., at Thurloe-place, the wife of Benjamin Daniel, L.R.C.P.Ed., of a daughter.

DICKSON.—On the 1st inst., at Beeford, Yorkshire, the wife of John Dickson, M.B., of a son.

SANCTUARY.—On the 6th inst., at Hayle, Cornwall, the wife of Thomas Sanctuary, M.B., of a daughter.

THOMSON.—On the 3rd inst., at Belturbet, co. Cavan, the wife of Hugh W. Thomson, M.D., of a daughter.

TRAQUAIR.—On the 4th inst., at Dean-park-crescent, Edinburgh, the wife of Ramsay H. Traquair, M.D., of a daughter.

WEBB.—On the 3rd inst., at Kingsbridge, Devon, the wife of William H. Webb, M.R.C.S.E., of a son.

MARRIAGES.

SAYER—GAMAN.—On the 4th inst., at Hambledon Parish Church, by the Rev. Thos. White, LL.D., Charles Wathen Sayer, Surgeon, late of Yatton, Somerset, to Emily Marian (Minnie), third daughter of the late John Gaman, Surgeon, of Hambledon, Hants.

WELCH—WARLOW.—On the 8th inst., at St. Michael's, Handsworth, John B. Welch, M.B., to Lucy Mary, daughter of William Warlow, Esq.

DEATHS.

BRADY.—On the 27th ult., at Rathbone-street, Tunstall, Staffordshire, C. J. Brady, Surgeon, aged 47.

COLLINS.—On the 9th inst., at Wanstead, Frederick Collins, M.D., aged 53.

DODSWORTH.—On the 2nd inst., at Turnham-green, Frederick C. Dodsworth, M.R.C.S.E., aged 74.

HAY.—On the 5th inst., at Carlisle, William Hay, M.D.

PICKOP.—On the 4th inst., at Great Salkeld, Eli Pickop, M.R.C.S.E., aged 64.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, Nov. 13th, 1879.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Nov. 7	30·37	N.W.	47	44	..	54	40	..	Foggy
,, 8	30·61	N.W.	45	44	..	51	41	..	Foggy
,, 9	30·40	W.	49	46	..	51	36	..	Overcast
,, 10	30·17	W.	48	46	..	52	45	..	Overcast
,, 11	30·13	W.	45	43	..	49	43	..	Overcast
,, 12	29·83	N.W.	46	42	..	50	42	0·01	Fine
,, 13	30·09	N.W.	38	34	..	47	34	..	Fine

Notes, Short Comments, and Answers to Correspondents.

EPIDEMICS IN THE METROPOLIS.

THE epidemic of scarlet fever and measles which we noticed as prevailing both to the north and south of Holborn, is extending over other and more distant districts of the metropolis. Dr. Rygate, the medical officer of St. George's-in-the-East, has not only warned the vestry that an epidemic had broken out, and is spreading in his district, but that its prevalence is in a great measure due to the ignorance and recklessness of the inhabitants. One child undergoing the process of desquamation was, its mother boasted, playing about in the streets, and, this woman added, she "did not care how many people came to see him." In another case two children had attended school for a week, though their father was ill with infectious disease. Eight other children went to school from an infected house. Altogether the sanitary inspector had given notice to various schools concerning thirty children who came from infected houses at the risk of propagating disease among their school-fellows. After receiving this information, the vestry raised a point on which we have often insisted, especially when treating the question of the spread of diseases through laundries. One of the vestrymen incidentally complained that the shop of a tradesman in the parish had been closed, his business ruined, and no compensation given. It was then explained that the whole of the family had been ill, and that it was a shop where bread and other eatables were sold. The stringent measures adopted were consequently recognised as indispensable; but we regret to add that the majority of the vestry did not vote in favour of giving compensation. Under such circumstances we are not surprised if the inhabitants of the district still resist the application of sanitary principles. It is evident that where great personal sacrifices are incurred for the public good, for the preservation of public health, a person in straitened circumstances has a moral right to claim compensation; and so long as such compensation is not freely granted, many poor and ignorant people will continue to evade the sanitary regulations, and conceal the true nature of the complaints from which they suffer. Such concealment we on former occasions proved to be frequently practised by laundresses; and though in their case this was more especially dangerous, still it will also be admitted that the purchase of bread from a person desquamating after scarlet fever is scarcely a safe transaction. Local authorities have evidently still to learn that something more than mere repression is expected, that the display of strength should be tempered by charity and mercy, or otherwise it may fail in its effect, and prove insufficient to cope with the ignorance, the prejudices, and the cunning of the lower classes.

Nemo.—The College of Surgeons would have a right of complaint; but there is little probability of a prosecution.

A Young Surgeon.—Dr. Millar's "Hints on Insanity" (Renshaw).

THE PRICE OF GLUTEN BREAD.

To the Editor of THE LANCET.

SIR,—Will you allow me a small space in THE LANCET to call the attention of the profession to the price of gluten bread. A patient of mine, to whom I had recommended it, ordered from a first-class shop two boxes, each box containing one pound, and was charged 6s. 3d. a pound, including carriage. If more than 14 lb. be ordered, it is sent carriage paid. Each box—that is each pound—consists usually of twenty-nine pieces, and from six to ten pieces are recommended to be eaten each day, which makes the gluten bread, supposing the patient only eat seven pieces each day, to cost about 1s. 7d. a day, or 11s. 1d. a week. I need hardly say that my patient declined eating such costly food, and returned to her flour bread. It seems strange that such an article should command a price like this, and stranger that people should ever buy it at that price.

Yours truly,

Sheffield, Nov. 3rd, 1879. H. J. HARDWICKE, M.D.

THE LEEDS WATERWORKS.

LEEDS, it would appear, has completed a great system of waterworks, which it began to construct in the year 1868 or thereabout, and on which it has expended over half a million of pounds sterling. The works were planned and executed by Mr. Filliter, C.E., of Leeds, in conjunction with Mr. Hawksley. The marvellous thing about these works is that they are stated to have been completed without the necessity of levying a single penny of rate upon the town, and that the profits obtained from the sale of the water had been sufficient to pay the interest on the capital, and to leave a surplus besides. We should like to know how the consumers among the poorer classes of the population and the population generally of the borough have come off with regard to the benefits to be obtained from this capital commercial undertaking—in other words, how the sanitary duties of the Corporation have been achieved in the pursuit of this commercial success.

Dr. Macrae.—The question is a legal one, and cannot be positively answered. The claim would be very doubtful.

"THE GUILD OF ST. LUKE."

To the Editor of THE LANCET.

SIR,—Agreeing entirely as I do with the spirit of your remarks on "The Guild of St. Luke" as far as regards your deprecation of any attempt on the part of that or any other secular Society to arrogate "the cure of souls," will you kindly allow me to say that this is certainly no part of our scheme, and that we have not the smallest wish or intention to regard the influence our profession gives us "as qualifications or opportunities to be laid at the foot of a sectarian altar." There could not be any greater misrepresentation of our real aim and object.

I am one with you in your estimate of the failure of the attempt during the middle ages to combine the two offices of priest and physician. I do not think that is likely to be tried again; certainly not by the medical profession; least of all by the Guild of St. Luke.

Permit me to say that we have no "ulterior purpose in relation to the possible connexions of medicine and divinity; and as you do not question "the right of individuals to form Associations with particular objects," I am sure, Sir, if you knew more of what our purpose and object is, you would not, after the admirable articles which have from time to time appeared in THE LANCET on what I may term the ethics of our profession, object for one moment to our Association.

I am sorry, Sir, you think our Society "bears an uncanny appearance," and that you think it necessary in connexion with it to "protest against an organisation which may be put to evil purposes." We at any rate desire to do nothing in secret, and for this reason I lately agreed to deliver a short address on our objects and work, to which the profession was invited. If the profession think that what I said was "uncanny,' I, for one, shall be only too ready to alter it. But I fear it is beyond my power to frame any organisation which may not, if people are so disposed, "be put to evil purposes." All I can say is that I know of nothing hitherto done by the Society to which you, Sir, would object, if I have rightly interpreted the many valuable articles which I have from time to time had the pleasure of reading in your pages.

My address, which defines our object and work, will shortly be published; and if then, Sir, you see in it aught that you disapprove of, or think unprofessional and wrong, I shall be the first to thank you for pointing it out; and, if convinced, I hope I have the manliness and honesty to admit my error.

Your obedient servant,

George-street, Hanover-square, Nov. 1879. ALFRED MEADOWS.

PAYMENT BY RESULTS IN SCHOOLS.

Dr. W. Edmunds thinks that this principle in schools is apt to work too hardly on children, especially infants. We partly agree with him, and may take another opportunity of raising the question.

Dr. T. Hall Redwood.—Thanks.

RESPIRATORS.

To the Editor of THE LANCET.

SIR,—I can assure Dr. Coghill that to this moment I have never seen or heard of his paper in THE LANCET of October 20th, 1877. I have just had the opportunity of seeing one of his respirators, and am pleased to publicly recognise the amount of thought and mechanical skill exhibited by him by its introduction; but I am told he uses his respirators for phthisis and for inhalation to the lungs. Mine is somewhat like it; and although denying any idea of copying his, I am glad to say that by adding two or three more plates it would answer for my treatment. The disinfectant used is not of so much importance. The iodates, chlorates, or any of that family, can be equally well used as the carbolic acid. I am indebted to my former teacher, the late Dr. C. Murchison, for the suggestion to adopt carbolic acid in therapeutics, and long before 1877 the combination quoted by me was a standard remedy in our dispensary. The only suggestion I thought new was its application with a respirator, and through tow.

Permit me to add, I used the word "adopt" because I know how often observers in different parts of the land are led by scientific truth to the same conclusion, and in this case I am pleased to find our efforts are directed to the same point.

Yours faithfully,

Rectory-road, N., Nov. 7th, 1879. THOS. GURNEY.

A WHISTLE IN THE WINDPIPE.

A REMARKABLE accident which occurred recently and ended fatally at Sherborne, in Dorset, illustrates the danger attending a very common juvenile practice. Small tin whistles, which enable boys to imitate "Punch," are sold in large quantities. A boy, named Ridout, made an imitation of this toy, and was using it about four months ago, when it slipped into his throat. All efforts to dislodge it were unsuccessful, and about a month since the boy became an in-patient of Yeatman Hospital, Sherborne, and was under the treatment of Drs. Williams and Davies for a month, during which time it was ascertained that the obstacle had got down deep into the trachea, and appeared to be fixed there; but as the symptoms were not urgent, it was decided to wait, and at the expiration of his term he left the hospital. A day or two afterwards his parents wished to get him admitted again; but on the next morning he was discovered dead in bed. He had appeared better during the previous day, and had been out for a walk in the country. On a post-mortem examination, the piece of tin was discovered impacted in the larynx. It had worked its way upwards, and got fixed in the cricoid cartilage. Here slight ulceration set in, which liberated two of the four corners of the little square of tin, and allowed it to turn on the axes of the other two corners. As long as the obstacle lay edgeways, breathing went on; but the instant the piece fell flat, the breath was completely stopped, and death occurred.

Mr. Ponder.—We shall require a block.

MEDICAL ETHICS.

To the Editor of THE LANCET.

SIR,—May I ask for your valuable opinion in reference to the following quotation from the excellent little book written by Dr. Styrap upon the above subject?

"When a practitioner is called in to or consulted by a patient who has recently been, or still may be, under the care of another for the same illness, he should on no account interfere in the case—except in an emergency,—but request a consultation with the gentleman in previous attendance. If, however, the latter refuse this, or has relinquished the case, or if the patient insist on dispensing with his services, *and a communication to that effect be made to him*, the practitioner last consulted shall be justified in taking charge of the case."

Suppose, however, that *no communication has been received by the gentleman in attendance* that the patient wishes to dispense with his services, is the practitioner last consulted in any way justified in taking charge of the case? I much regret that it is necessary to ask for your opinion in a case of this kind. Yours faithfully,

Nov. 4th, 1879. ETIQUETTE.

*** A medical practitioner is certainly justified in taking charge of a patient who honestly, and in the exercise of his own discretion, wishes to change his medical adviser. The practitioner who is called in under such delicate and painful circumstances should see that every courtesy and consideration is used towards the retiring practitioner, especially that he is duly informed. He should, moreover, express his willingness and his preference rather to meet than to supersede him. But undoubtedly a patient is fully entitled to have whom he prefers. It is no kindness for a patient to retain the services of his old medical adviser when he no longer continues his confidence.—ED. L.

Mr. Walter Pocock.—Our correspondent probably refers to a letter of Mr. William Sedgwick, in which is related a case where 240 grains of chloral were swallowed in one dose, without fatal result. The letter was published in THE LANCET of August 3rd, 1878.

Dr. Charles Slesser.—We always prefer condensed papers to lengthy communications on account of the great pressure on our space.

THE INDIAN MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—Some two or three weeks ago, while in the north of Scotland, I received your journal, containing a letter, signed "Surgeon-Major," Southern India. The letter was so temperate, and expressed so fairly the general feeling of the service in Bengal, that I venture to ask you to insert this in support.

"Surgeon-Major" makes one mistake—viz., in supposing that the chaplains get their pensions "after seventeen years' service." Under the new rules, they get it after eighteen years' residence—a very different matter. However, even that, we in Bengal would be quite satisfied to make a basis for the re-organisation of our pension rules—viz., £365 a year after eighteen years' residence, which would practically be twenty-one years' service, as we all spend some three years on leave during that time.

Now, to show you that we are not asking more than is fair or is given to others, I need not go further than the uncovenanted service, with its half-pay up to £800 a year after twenty-five years; or the covenanted service, with its £1000 a year after the same period; or the military service, with its off-reckonings of £1120 a year; while the medical service cannot go beyond £550 a year after thirty-two years' service, or rather twenty-eight years' residence, which means at least thirty-five years' service. But I fell in with a Scotch friend, just come from the West Indies, and from the Government Blue-book of the colony he gave me the following statistics of the pay and pensions of medical officers serving in British Guiana. It is divided into twenty-six districts, each district being a narrow strip of land, about two miles wide, and from eight to fifteen miles long (of seven districts that I have had charge of in India, the smallest was fifty by thirty miles in extent). The medical officers' pay for these districts are as follows:—

2 districts	£500 a year.	1 district	£800 a year.
7 ,, ...	600 ,,	8 districts	900 ,,
4 ,, ...	700 ,,	4 ,, ...	1900 ,,

Two surgeon-generals or inspector-generals, resident surgeon and assistant for General Hospital, resident for Lunatic Asylum, on salaries from £600 to £1200 a year.

The two districts of £500 a year are so small that no separate medical officer is appointed to them, the man on either side getting half the pay and taking half the work, so that on nomination the civil surgeon gets at once £600 a year, and four out of the seven on this pay get £250 a year each extra. My friend tells me that no civil surgeon there spends more than twelve years in the smaller stations; by that time they all get up to £900 or £1000 a year. Contrast this with our Indian pay, commencing with 286 rupees a month, and after twenty years' service 827 rupees, or if in charge of a regiment 1000 rupees a month. Further, it is all paid in sterling, and not in one and sevenpenny rupees. Let no one calculate Indian pay at par now; that day has long passed by; 100 rupees for years has not been worth more than £8, and not always so much. Still we do not urge any increase of pay. A man can live on his pay and not get into debt in India; but he cannot save anything, except perhaps enough to pay his passage home when sick—a boon which a liberal Government, with troop-ships leaving every month, refuses to grant; but I do want Government to give us something more than starvation allowance when broken down and worn out we are compelled to retire. In conclusion, let me contrast the pensions of the two services:—

British Guiana.	Pension.	*East India.*	Pension.
17 years' service if drawing only £800 a year	£272	Same service	£220
21 years' service if drawing £1000 a year.	420	Same service	292

And so on in proportion. Need I say any more to show the injustice of the pension rules for our service?

The average income from private practice in British Guiana is £300 a year; while I am certainly exceeding the mark when I say that the average in India from the same source is not more than £100 a year. The lucky few make money; the rest nothing. For instance, I was myself civil surgeon of a small station for three years or so, and my total receipts on account of private practice was only 850 rupees. Military men make nothing scarcely by private practice. May we look for your help in securing revision of our pension rules?

Yours obediently,

October 20th, 1879. A BENGAL CIVIL SURGEON.

To the Editor of THE LANCET.

SIR,—In your issue of September 27th, your correspondent, "Army Surgeon," sounds a note of warning to young medical men seeking admission into the Army Medical Department, and in doing so tells them to look well to the rate of Indian pay, as when the last Royal Warrant was promulgated and a large increase of pay granted or rather promised, the Indian pay was very little altered. Now, Sir, it is but fair to set this statement in its true light. The Royal Warrant of 1876 granted nearly forty per cent. increase of pay, but did not state that the new rate of pay was to be increased or diminished when serving in India; therefore the Indian authorities did not alter the rates of consolidated pay fixed about twelve years ago. This being the case, I shall have very little trouble in showing that, in place of the pay in India being left as good as it was ten years ago, it was actually made far inferior by the following two causes.

1st. By the fall in value of the rupee from 2*s.* to 1*s.* 6¼*d.* in 1876, when the Warrant was issued, making the pay of 317 rupees only worth about £24, in place of £31 14*s.*, its value when the rate was fixed.

2nd. By the direct action of the Indian Government, who issued an order that, owing to the large proportion of surgeon-majors now serving in India, the appointments which, according to the regulations, carried extra pay in the case of a surgeon holding them, should never be given to surgeons; but that surgeon-majors, who, in virtue of their large pay, were not entitled to draw extras, were to be appointed to these charges, and thus save the Government, and decrease the pay of the surgeon. In one case I could cite, a surgeon-major, drawing 1056 rupees a month, was put in charge of a small hill sanatorium, which was always a junior's charge, and for which he would draw 150 rupees a month extra, or in all 467 rupees a month.

Having stated these facts, I shall leave it to your readers to decide whether or not the pay of surgeons now in India is not very much worse than it was ten or twelve years ago.

In conclusion, I may add the rate of exchange in the market this day is 1*s.* 3*d.* per rupee, or an increase of 1½*d.* since 1876; but how long this may remain so is unknown to, Your obedient servant,

October 16th, 1879. INDIA.

Young Practitioner.—Reasonable doses of opium to the mother do not affect the infant. Neither, we presume, will the careful and local use of belladonna for the purposes and in the way described.

Dr. Hardwicke.—Early in the year.

COLOTOMY BY A PARROT.

Mr. John Wood writes to us that the specimen he exhibited at the last meeting of the Pathological Society (*vide* THE LANCET, p. 692) was forwarded to him by Mr. De la Tour (*not* Delacour, as stated in our report). Mr. Wood also wishes to correct the report in another particular. He says: "My allusion to Professor Flower's opinion was to the effect that he considered the liking of the Kea parrot for flesh (developed since the introduction of sheep into the colony) to be a valuable evidence of a change of habits in an existing species of bird from a frugivorous to a carnivorous diet. I then went on to say that the bird *might* be supposed to have aimed at the colon in search of the vegetable contents, but that there was no evidence of this."

M.D. (Lincoln) had better make application at the Office of the Crown Agents for the Colonies, Downing-street.

Mr. James Stephens.—We cannot name a practitioner.

Sydenham.—See the reply to another correspondent in this issue, and look for a personal answer next week.

POISONING BY STRAMONIUM.

To the Editor of THE LANCET.

SIR,—Cases of opium-poisoning successfully treated by hypodermic injection of atropine have been reported recently by Dr. J. Milner Fothergill in THE LANCET and elsewhere, which showed in a striking manner the strongly marked antagonism existing between those two drugs.

I do not recollect having met with any recorded cases tending to prove that antagonism conversely; but a case of stramonium-poisoning which I met with recently comes very near doing so, since the toxic properties of that drug are so nearly identical with those of belladonna.

The patient, a girl of twelve years, suffers from asthma, and had for some time smoked stramonium-leaves for relief of the paroxysms. Her mother, wishing to give the girl a dose of pinkroot, *Spigelia marilandica* (a common domestic remedy here for lumbrici), took, by mistake, the paper containing the stramonium (from which the gummed label had fallen off), and taking "a large pinch" of the leaves, certainly not less than two scruples, boiled it in about four ounces of water, and gave the whole of the decoction at a dose. No alarm was taken for fully six hours, when the mother found the girl lying on her bed insensible. I saw her soon after, with widely dilated pupils, insensible to strong light, cold extremities, feeble pulse, shallow respiration, evidently seriously poisoned. I injected at once one-third of a grain of morphia into the arm, ordered hot bottles to the feet and axillæ, and hot brandy-and-water as soon as she could swallow. It was quite too late for emetics, even if she could be made to swallow them. In about three hours I saw her again, and finding the pupils still widely dilated, and other symptoms as before, except that there was some return of warmth in the skin, I injected another third of a grain of morphia. About four hours after I was sent for in great haste, the girl being said to be dying. I found her quite warm, pulse better, pupils nearly contracted to normal, but the respirations had fallen to only *four* per minute. The patient would draw a slow deep breath, and then the chest would remain absolutely motionless for a quarter of a minute; then another deep breath, and so on. Query: Was this extreme slowness of the breathing owing to the first poison or the last? At any rate, it soon passed off, and the patient recovered perfectly in a day or two.

It is difficult to avoid the conclusion that the girl's life was saved by the morphia injections, which, too, left no ill-effects of their own, notwithstanding the largeness of the dose exhibited.

I am, Sir, yours truly,

St. John's, N.F., Oct. 28th, 1879. J. HOWLEY, F.R.C.S.I., &c.

L.R.C.S., (Keyworth, Notts.)—A certificate from a public vaccinator is not sufficient. The certificate must be from a public vaccinator, appointed for the purpose, at one of the educational vaccination stations. Information as to these stations may be obtained from the Vaccine Department, Local Government Board, Whitehall, London.

Dr. Frederick Marsden.—Yes.

THE LATE PROFESSOR A. H. GARROD.

To the Editor of THE LANCET.

SIR,—The various notices which the lamented death of Professor Alfred Henry Garrod has called forth speak eloquently of the esteem in which he was held and the universal regret at his removal, all too soon, as it seems to us, from his place in the foremost rank of biologists. But there are some—I believe I might say many—who, while sharing in this general regret, feel, moreover, that they have sustained a severe personal loss, even though they may have had but slight personal acquaintance with Professor Garrod, and were not included in the immediate circle of his friends. I allude to those who, with no claim on the deceased professor other than that of being workers in the same field of scientific inquiry, have been recipients of his willing and unselfish practical aid in the prosecution of their researches, and who, now that he is gone, will ever hold his name in grateful remembrance.

I should esteem it a favour if you would allow these few lines of inadequate but sincere and respectful recognition of Professor Garrod's encouragement of research to appear in your journal, and beg to subscribe myself, Your obedient servant,

November, 1879. M.

ARTISANS' DWELLINGS, DUBLIN.

AT a recent meeting of the Corporation of Dublin, a scheme for the destruction of a number of houses in Plunket-street, Dublin, at a cost of some £15,000, was adopted. The "unhealthy area" proposed to be dealt with contains about two acres, and is inhabited by 373 families, representing 1228 persons; whilst its condition is so bad that twenty-one of the houses have already been condemned as unfit for human habitation. On sanitary and social grounds, and as one of the means for reducing the high death-rate of Dublin, the proposed scheme is a most desirable one; and although a Local Government Board inquiry must be held before any important steps are taken in the matter, yet it is only a question of time as regards its completion.

G.—We believe none of the other examiners have published works on the subjects on which they examine.

WALKING UNDER WATER.

To the Editor of THE LANCET.

SIR,—In your very interesting account of Fleuss's new system of diving or walking about under water without the aid of an air-pipe, and which is now being exhibited in this institution, there is, I believe, a misapprehension, which I should feel obliged if you would kindly correct. The precise nature of Mr. Fleuss's secret we do not know. But he informs us that he does not take down with him any reservoir of compressed air, and with his existing apparatus it is difficult to see where such a reservoir could be stowed. He has been under water at this institution for about an hour, and he informs us that he can remain down for four hours. The air necessary for respiration during such a protracted period would necessarily occupy a very large space, and even if it could be carried down by the diver, the carbonic acid generated or exhaled by the lungs during respiration would not be got rid of without special means. In Fleuss's apparatus, when working properly, there is no escape of air or gas to the surface. It appears to us the most probable explanation of the system is that the same air is continually being regenerated for respiration; but whether this is so, and, if so, how the regeneration is accomplished, are secrets known only to the inventor.

I am, Sir, your obedient servant,

J. HOWELL, Secretary.

Royal Polytechnic Institution, Nov. 8th, 1879.

Mr. D. G. Prothero may consult with advantage a notice on the subject referred to which appeared in our columns on May 24th last; also several letters, containing the desired information, published in succeeding numbers of THE LANCET.

M.R.C.S.—Dr. B. Foster has written a small work and Dr. Galabi numerous papers on the subject; but the discrepancies alluded to by our correspondent have not been cleared up.

WORKHOUSE INFIRMARIES AS FIELDS FOR MEDICAL STUDY.

To the Editor of THE LANCET.

SIR,—I quite agree with your correspondent, Dr. Benton, on the great utility of workhouse infirmaries as fields for medical study.

The class of cases are chiefly those met with in general practice, the diseases of middle and advanced life, the treatment of which the student generally has to learn for himself after he is qualified, for these cases are seldom seen in the wards of a hospital. The infirmary patients would certainly derive benefit from clinical work, for they would receive more careful attention; for there is no sharper critic than a third or fourth year's man, and thus the medical officers would be kept up to their work. The only difficulty I can see is the opposition which many boards of guardians would be sure to make to the proposal. Some, no doubt, would see the advisability of the innovation, but I fear the majority would not; so the only way out of the difficulty would be to make the proposed clause in Gathorne Hardy's Act compulsory, and not permissive, subject, of course, to the control of the Local Government Board. I trust Dr. Benton's suggestion will not be lost sight of.

Yours truly,

Nov. 10th, 1879. EXPECTANS.

Mr. T. A. D.—1. Mr. Callender's Statistics will be found in the last volume of St. Bartholomew's Hospital Reports.—2. The malady is described in works on Skin Disease.—3. No.

Lady Aden's object is a kind one. She should get some medical man of her acquaintance to write such a statement as she suggests, without appending his name to it.

Dr. A. P. M. Corbett.—The plate may be as suggested; but it would not be quite accurate to say that there was a double qualification, inasmuch as the degree is not yet recognised as a qualification in England.

INFANTILE MORTALITY IN AUSTRALASIA.

To the Editor of THE LANCET.

SIR,—Would you kindly allow me to correct a misprint in my letter on the above subject which appeared in your last issue? "1869" should be 1850. I mention this lest some accurate Victorian meteorologist should suppose that I had misrepresented the weather on the occasion described. Your obedient servant,

Strand, Nov. 6th, 1879. ARTHUR LOCKER, Editor of *Graphic*.

ROYAL COLLEGE OF SURGEONS: PRIMARY EXAMINATIONS.

THE following were the questions on Anatomy and Physiology submitted to the candidates at the last primary examination for the diploma of Member of the above College, when they were required to answer at least four, including one of the first two, out of the six questions:—

1. Describe the structure of the mammary gland. Give the physical characters and chemical composition of milk.
2. Describe the motions and sounds of the heart. What events are synchronous with each sound?
3. Describe the hip-joint, including the constituent bones, ligaments, and synovial membrane. What are its movements? and by what muscles are they effected?
4. State how you would remove the brain from the skull in a post-mortem examination. Mention the structures which it would be necessary to divide in the process.
5. Describe the male urethra; giving the position, attachments, and actions of the muscles connected with it.
6. What dissection is necessary to expose the coeliac axis after the abdomen has been opened? Describe the course and anastomoses of its branches.

MENTHOL AS AN ANTI-NEURALGIC.

To the Editor of THE LANCET.

SIR,—Since last writing to you on this subject, I have had the opportunity of using a solution of menthol (one grain to twenty minims of rectified spirit) in three cases of sciatica. All were relieved for a time, and one notably, who was only able to walk with extreme difficulty, walked briskly away. This result proves very temporary, no doubt; but with a stronger solution (say one to ten), and frequent application, more benefit might be obtained. Yours obediently,

Edinburgh, Nov. 11th, 1879. A. D. MACDONALD.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir W. Gull, London; Mr. T. Chambers, London; Dr. A. Meadows, London; Dr. W. Squire, London; Mr. W. Pocock, London; Dr. Baines, Eye; Mr. Ideson, Colne; Dr. Redwood, Rhymney; Mrs. Morse, Preston; Mr. Bond, Shaldon; Mr. Prothero, Aberdeen; Mr. Howley, St. John's, Newfoundland; Dr. Illingworth, Natal; Messrs. Hatchman and Co., London; Messrs. Smith and Co., London; Dr. Jones, Cork; Mr. Firth, Norwich; Mr. Mulligan, Madeira; Mr. Hoggan, London; Dr. Dowse, London; Mr. Whitford, London; Mr. Muller, Amsterdam; Mr. Greenwood, Liverpool; Lady Ailsa, Ayre; Mr. Hainsworth, London; Mr. Cadge, Norwich; Dr. Williamson, London; Mr. Giffard, Egham; Mr. Stephens, Brixton; Dr. C. Drysdale, London; Messrs. White and Sons, London; Dr. Hardwicke, Sheffield; Mr. Probe; Dr. Blomfield, Lynn; Messrs. Burroughs and Co., London; Dr. Gurney, London; Mr. Eltoft; Dr. Gream, Worth; Mr. J. Startin, London; Dr. Thomas, Glasgow; Dr. R. E. Thompson, London; Mr. A. Finch, Blackheath; Dr. Wood, Worcester; Dr. Sheen, Cardiff; Dr. Littlejohn, Edinburgh; Mr. Heycock, London; Dr. Bernstein, Wolverhampton; Mr. Thomas, London; Dr. Hime, Sheffield; Mr. Thompson; Dr. Morgan, Lichfield; Mr. J. Smith, Leeds; Mr. Weekes, Melksham; Mr. J. Wood, London; Messrs. Blackwood and Co., Edinburgh; Mr. Wills, Crewkerne; Mrs. Catlin, Stoke Newington; Dr. M'Donald, Edinburgh; Dr. Duke, Dublin; Mr. Bartleet, Birmingham; Mr. Garner, Birmingham; Dr. Curran, Warrington; Mr. Lawson, Burnley; Mr. Reckett, Boston; Mr. Barnett, Cambridge; Dr. Lloyd, London; Dr. Coulhan; Dr. Williams, Talgarth; Mr. Harley, Newport-Pagnel; Mr. Plumb, Sutton-in-Ashfield; Mr. Phillips, Bristol; Mr. Byrne, London; Dr. Humble, Patagonia; Mr. Howell, London; Dr. Elliott, Carlisle; Mr. Richards, Bengal; Dr. Reckitt, Wainfleet; Mr. Dixon, Loughborough; Mr. A. Locker, London; Mr. Gazdar; Dr. Royle, Milnthorpe; Dr. Woodburn, Glasgow; The Secretary of the Society of Arts; The Manager of the Metropolitan Asylum District Board; A Member of the Society; J., Barmouth; J. B.; Hants; India; Expectans; A Disgusted one; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Wright, Accrington; Mr. Horne, York; Mr. Cairns, Wakefield; Mr. Ridge, Enfield; Mr. Rutkins, York; Messrs. Llewellyn and Co., Tunstall; Mr. Sanctuary, Hale; Mr. Grant, Birmingham; Dr. Whitney, Teddington; Mr. Alsop, Newton Abbot; Mr. Phillips, Cowbridge; Mr. Woodworth, Puckeridge; Mr. Bullock, Warwick; Mr. Hunt, Hull; Messrs. Calvert and Co., Manchester; Mrs. Gale, Reading; Messrs. Lea and Nightingale, Liverpool; Dr. Merryweather, Guisborough; Mr. M'Williams, Great Grimsby; Mr. Wolverson, Alfreton; Mr. Claremont, Sheffield; Mr. Luff, London; N. S. R.; H. S., Stoke-on-Trent; G. E., Holloway; M.R.C.S., Penryn; L.M., Newcross; J. C. N., Brixton; A. G., Nottingham; Medicus, Newcastle; Alpha, Blackburn; Medicus, Reading; Physician; Medicus, Warrington; J. B. W., Burton-on-Trent; A. B. C., Eastbourne; T. G., Richmond; Ingledew; M.D., Mile-end-road; M. S., Hackney; Beta, Dorchester; D. E. X.; Omega; X., Aldborough; Medicus, Northleach; M.D., Luton; Medicus, Oldham; M.D., Shepherd's-bush; L. M.; Medicus, Sheffield.

Weekly Argus, Hackney Gazette, Carlisle Patriot, Birmingham Daily Gazette, Southampton Times, Bradford Observer, &c., have been received.

Medical Diary for the ensuing Week.

Monday, Nov. 17.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
MEDICAL SOCIETY OF LONDON.—8½ P.M. Mr. Rose, "On the Treatment of Fractured Patellæ by Drilling Fragments and Wireing them together.—Clinical Cases by the President (Dr. Cockle) and Mr. Spencer Watson.

Tuesday, Nov. 18.

ST. MARK'S HOSPITAL.—Operations, 9 A.M.
GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. The following Specimens will be shown:—Calvaria from Congenital Syphilis; Cancer of the Gall-bladder; Multiple Sarcoma of the Skull; Primary Sarcoma of Liver; Fatty Degeneration of Heart; Myocarditis in Scarlatinal Nephritis; Bifid Uterus and Double Vagina; Peculiar Rash on Tongue; Enchondroma of the Arm; Malformation of the Heart (two cases); Aneurism and Rupture of Aortic Valve; Heart Disease (two cases); and other Specimens.—Members are invited to attend at 8 P.M., by which time all Specimens are on the tables for examination.

Wednesday, Nov. 19.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.—8 P.M. Casual Communications.—8½ P.M. Council Meeting.

Thursday, Nov. 20.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
HARVEIAN SOCIETY.—8½ P.M. Dr. W. Squire, "On the Action of Salicine and Salicylic Acid in Rheumatism."—Mr. Osmond Vincent, "On Congenital Talipes in the Adult."—Mr. Walter Pye, "On the Present Position of the Operation of Nerve-stretching."

Friday, Nov. 21.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, Nov. 22.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

NOTICE.

In consequence of THE LANCET being frequently detained by the Post Office when posted for places abroad *more than eight days after* publication, subscribers and others are reminded that such copies can be forwarded only as book packets, and *prepaid* as such.

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